Service Manual

Revised: July 27, 2005

Lexmark™ C760, C762

5060-4xx

- Table of Contents
- Start Diagnostics
- Safety and Notices
- Trademarks
- Index

LEXMARK™

Lexmark and Lexmark with diamond design are trademarks of Lexmark International, Inc., registered in the United States and/or other countries.

Edition: July 27, 2005

The following paragraph does not apply to any country where such provisions are inconsistent with local law: LEXMARK INTERNATIONAL, INC. PROVIDES THIS PUBLICATION “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions; therefore, this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in later editions. Improvements or changes in the products or the programs described may be made at any time.

Comments may be addressed to Lexmark International, Inc., Department D22A/032-2, 740 West New Circle Road, Lexington, Kentucky 40550, U.S.A or e-mail at ServiceInfoAndTraining@Lexmark.com. Lexmark may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you. You can purchase additional copies of publications related to this product by calling 1-800-553-9727. In other countries, contact your point of purchase.

References in this publication to products, programs, or services do not imply that the manufacturer intends to make these available in all countries in which it operates. Any reference to a product, program, or service is not intended to state or imply that only that product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any existing intellectual property right may be used instead. Evaluation and verification of operation in conjunction with other products, programs, or services, except those expressly designated by the manufacturer, are the user’s responsibility.

Lexmark, Lexmark with diamond design, and MarkNet are trademarks of Lexmark International, Inc., registered in the United States and/or other countries.

ImageQuick, Optra Forms, and PrintCryption are trademarks of Lexmark International, Inc.

LEXFAX is a service mark of Lexmark International, Inc.

PostScript® is a registered trademark of Adobe Systems Incorporated.

PCL® is a registered trademark of the Hewlett-Packard Company.

Other trademarks are the property of their respective owners.

© 2004 Lexmark International, Inc.
All rights reserved.

UNITED STATES GOVERNMENT RIGHTS
This software and any accompanying documentation provided under this agreement are commercial computer software and documentation developed exclusively at private expense.

P/N 12G9435

Table of contents

Notices and safety information xi

Laser notice xi
Safety information xv

Preface xviii

Definitions xviii

General information 1-1

Tools required for service 1-1
Options and features 1-2
Printer specifications 1-4
Print speed and performance print speed 1-6
Media specifications 1-10
Web oiler upgrade kit and replacements 1-17
Acronyms 1-18

Diagnostic information 2-1

Start 2-1
POR (Power-On Reset) sequence 2-2
Symptom tables 2-3
Symptom table - base printer 2-3
Symptom table - 500-sheet drawer option 2-4
Symptom table - HCIT 2000-sheet option 2-4
Symptom table - output expander option 2-4
Symptom table - 5-bin mailbox option 2-5
Symptom table - finisher (HCOF) option 2-5
Error code table 2-6
9xx service errors 2-6
1xx service errors 2-8
Programming errors - P101 through P116 2-14
2xx Paper Jams 2-15
Sub error code table 2-18
Understanding the printer operator panel 2-21
Operator panel buttons 2-21
Color Menu 2-23
Utilities Menu 2-25
User attendance messages 2-27
Service checks 2-41
100 ITU Error 2-41
104 ITU Error 2-44
120 error code 2-45
121 error code 2-46
122 error code 2-46
123 error code 2-46
124 error code 2-47
125 error code 2-47
126 error code 2-48
127 error code 2-48
128 error code 2-49
129 error code 2-49
130 error code 2-50
131 error code 2-51

132 error code 2-52
133 error code 2-53
134 error code 2-54
135 error code 2-54
136 error code 2-54
148 error code 2-56
150 error code 2-57
151 error code 2-58
152 error code 2-58
153 error code 2-59
154 error code 2-60
156 error code 2-61
157 error code 2-62
158 error code 2-62
159 error code 2-63
160 error code 2-63
162 error code 2-64
163 error code 2-64
164 error code 2-64
165 error code 2-65
200 Paper Jam—Tray 1 2-66
200 Paper Jam—Options and multipurpose feeder 2-68
201 Paper Jam 2-70
202 Paper Jam 2-71
230 Paper Jam 2-73
24*x* Paper jam 2-74
250 Paper Jam 2-78
271 Paper Jam - check bin 1 2-80
272 Paper Jam - check bin *x* 2-81
280 Paper Jam 2-82
900 RIP Software Error 2-83
925 error code 2-85
926 error code 2-85
927 error code 2-86
930 error code 2-86
940 error code 2-87
941 error code 2-89
942 error code 2-91
943 error code 2-93
956 service error 2-95
990 service error 2-95
5-bin mailbox option service check 2-98
500-sheet drawer option service check 2-102
AC and DC power service check 2-105
Autocompensator service check 2-107
Black only retract (BOR) service check 2-109
Close door/HVPS/printhead interlock switch service check 2-110
Duplex option service check 2-112
Envelope feeder option service check 2-114
Finisher service check 2-116
HCIT 2000-sheet option service check 2-121
Fuser drive assembly noise check 2-124
Operator panel LCD/status LED/buttons service check 2-125
Output expander option service check 2-127

Print quality service check 2-130
Blank page (no image) 2-130
Entire page is mostly one color—Full bleed planes in one color 2-131
Missing colors—Complete or partially missing color planes 2-132
Black and white only—cyan, magenta, and yellow are missing 2-133
Light print over the entire page 2-133
Vertical lines or streaks 2-134
Horizontal lines or streaks 2-134
Low image density 2-135
Poor color alignment 2-136
Transparency print quality is poor 2-136
Negative ghosting or faded image 2-137
Residual image 2-137
Uneven printing 2-137
Toner smears or rubs off the page with no error code displayed 2-138
Smudged or distorted images on fused page 2-138
Toner is on the back of the printed page 2-139
Light lines or streaks appear on the page 2-139
White streak in color plane 2-140
Paper wrapped around the second transfer roll 2-140
Second transfer roll service check 2-141
Tray 1 service check 2-142
Tray 1 paper size sensing service check 2-143

Diagnostic aids 3-1

Diagnostic aids 3-1
Printhead diagnostics 3-1
Print quality defect locator chart 3-4
Partial Print Test 3-6
Configuration Menu 3-8
Entering Config Menu 3-8
Exiting the Config Menu 3-8
ITU Count Value 3-9
Fuser Cnt Value 3-9
Reset Fuser Cnt 3-9
Prt Quality Pgs 3-9
Color Trapping 3-9
Tray Insert Msg 3-9
SIZE SENSING 3-10
Panel Menus 3-10
PPDS Emulation 3-10
Demo Mode 3-10
Factory Defaults 3-10
Energy Conserve 3-11
Auto Color Adjust 3-11
ERROR LOG 3-11
Font Sharpening 3-11
Paper Prompts 3-12
Env Prompts 3-12
Exit Config Menu 3-12

Diagnostics mode 3-13
Entering Diagnostics mode 3-13
Exiting the Diagnostics mode 3-13
REGISTRATION 3-14
ALIGNMENT MENU 3-15
Setting alignment for color 3-15
Drift Sensors 3-16
TOP FINE MARGIN ADJ 3-16
MISC TESTS 3-17
Motor Detect 3-17
Toggle ITU 3-17
Belt Tracking (ITU 4th point adjustment) 3-18
Printhead Inst 3-18
PRINT TESTS 3-19
Print Tests (input sources) 3-19
Print Quality Pgs 3-19
HARDWARE TESTS 3-20
LCD Test 3-20
Button Test 3-20
DRAM Test 3-21
CACHE Test 3-21
ROM Test 3-22
Parallel Wrap Test 3-22
Serial Wrap Test 3-23
DUPLEX TESTS 3-24
Duplex Quick Test 3-24
Duplex Top Margin Offset 3-24
Duplex Sensor Test 3-24
INPUT TRAY TESTS 3-25
Feed Test 3-25
Sensor Test 3-25
OUTPUT BIN TESTS 3-26
Feed Test 3-26
Feed to All Bins 3-26
Sensor Test 3-27
Diverter Test 3-27
FINISHER TESTS 3-28
Staple Test 3-28
Finisher Feed Test 3-28
Finisher Sensor Test 3-28
Hole Punch Test 3-29
BASE SENSOR TEST 3-30
DEVICE TESTS 3-30
Quick Disk Test 3-30
Disk Test/Clean 3-31
Flash Test 3-31
PRINTER SETUP 3-32
Defaults 3-32
PAGE COUNTS 3-32
Serial Number 3-33
Engine Setting *x* *3-33*
Model Name 3-33
Configuration ID 3-33
Edge to Edge 3-33
Reset Calibration 3-34
Cal Ref Adj 3-34

EP SETUP . . . 3-34
EP Defaults . . . 3-34
Fuser Temp . . . 3-34
DC Charge Adjustment . . . 3-34
Dev Bias Adj . . . 3-34
Transfer Adjust . . . 3-34
ERROR LOG . . . 3-35
Display Log . . . 3-35
Print Log . . . 3-35
Clear Log . . . 3-36
EXIT DIAGNOSTICS . . . 3-36
HCIT standalone test mode . . . 3-36

Repair information . . . 4-1

Handling ESD-sensitive parts . . . 4-1
Screw identification table . . . 4-2
Removal procedures . . . 4-6
Top cover assembly . . . 4-6
Front lower left cover . . . 4-10
Paper path access door cover . . . 4-11
Front left handle cover assembly . . . 4-11
Front lower right cover . . . 4-12
Front right handle cover assembly . . . 4-13
Front cover assembly . . . 4-14
Rear cover . . . 4-16
Lower right door assembly . . . 4-18
Left lower cover . . . 4-18
Lower jam access door assembly . . . 4-19
Redrive door . . . 4-19
Autocompensator pick assembly . . . 4-20
BOR drive assembly . . . 4-28
Cartridge contact assembly . . . 4-29
Cartridge drive assembly . . . 4-30
Developer HVPS board . . . 4-31
Friction buckler . . . 4-33
Front right light shield . . . 4-34
Fuser assembly . . . 4-35
Fuser bottom duct . . . 4-36
Fuser drive assembly . . . 4-37
Fuser drive card assembly . . . 4-37
Fuser fan . . . 4-38
Fuser top duct . . . 4-39
Fuser web oiler motor assembly and card . . . 4-40
Inner system board shield . . . 4-43
ITU assembly . . . 4-44
ITU drive assembly . . . 4-44
ITU drive motor . . . 4-45
LVPS assembly . . . 4-46
Multipurpose feeder (MPF) . . . 4-48
Nip relief handle . . . 4-50
Operator panel . . . 4-53
Outer system board shield . . . 4-54
Paper size sensing assembly . . . 4-55
Paper size sensing board . . . 4-58
Pick rolls . . . 4-58

Printhead removal and adjustments 4-60
Identifying the printheads 4-60
Printhead mechanical alignment 4-61
Printhead electronic alignment 4-63
Rear bellcrank (cyan, magenta, yellow) 4-64
Rear bellcrank (black) 4-66
Redrive assembly 4-68
Registration motor 4-69
RIP fan 4-69
S2/narrow media/transparency/multipurpose feeder cable 4-70
S2/narrow media/transparency/multipurpose feeder sensors 4-71
Second transfer roll 4-71
System board 4-72
Transfer HVPS board 4-73
Transfer plate assembly 4-76
Vacuum transport belt (VTB) 4-77
Vacuum transport belt (VTB) fan 4-79
Waste container door 4-79
Waste container latch 4-80
Web oiler fuser kit installation 4-80

Connector locations 5-1

Locations 5-1
Printer boards 5-1
Printer motors 5-2
Printer sensors 5-3
Cartridge contact assembly pin locations (cyan, magenta and yellow) 5-4
Cartridge contact assembly pin locations (black) 5-5
Connectors 5-6
System board - non-network 5-6
System board - network 5-7
Autoconnect—top 5-18
Autoconnect—bottom 5-19
Transfer high voltage power supply (HVPS) 5-20
Developer high voltage power supply (HVPS) board 5-22
Low voltage power supply (LVPS) 5-23
LVPS cable connectors to system board 5-23
LVPS fuser connectors 5-24
Paper size sensing board 5-25
High-capacity input tray (HCIT) 5-26
High-capacity output finisher (HCOF) 5-28
HCOF system board 5-28
HCOF LVPS board 5-32
HCOF sub LVPS relay board 5-32

Preventive maintenance 6-1

Safety inspection guide 6-1
Lubrication specifications 6-1
Lubrication for replacement motors 6-2
Fuser drive assembly 6-2
Cartridge drive assembly 6-3
ITU drive assembly 6-3
Scheduled maintenance 6-4
Standard fusers 6-4
Web oiler fusers and web oiler replacements 6-4

Parts catalog 7-1

How to use this parts catalog 7-1
Assembly 1: Covers 7-2
Assembly 2: Cartridge mounting 7-6
Assembly 3: Fuser assembly 7-7
Assembly 4: Fuser drive 7-10
Assembly 5: Vacuum transport belt (VTB) assembly 7-11
Assembly 6: Transfer 7-12
Assembly 7: Printheads 7-13
Assembly 8: Paper feed output (redrive) 7-14
Assembly 9: Paper feed input 7-15
Assembly 10: Paper size sensing 7-16
Assembly 11: Paper feed transport 7-17
Assembly 12: Multipurpose feeder (MPF) 7-18
Assembly 13: 500-Sheet integrated tray 7-20
Assembly 14: Autocompensator assembly 7-21
Assembly 15: ITU assembly 7-22
Assembly 16: ITU drive assembly 7-23
Assembly 17: ITU loading 7-24
Assembly 18: Waste toner 7-26
Assembly 19: BOR drive assembly 7-27
Assembly 20: Cartridge contact assembly 7-28
Assembly 21: Cartridge drive assembly 7-29
Assembly 22: Electronics 7-30
Assembly 23: Electronics—cabling interconnections 1 7-36
Assembly 24: Electronics—cabling interconnections 2 7-38
Assembly 25: Electronics—cabling interconnections 3 7-40
Assembly 26: Electronics—cabling interconnections 4 7-41
Assembly 27: Output expander 7-42
Assembly 28: 5-Bin mailbox 7-46
Assembly 29: 500-Sheet drawer option 7-50
Assembly 30: Duplex option 7-54
Assembly 31: High-capacity input tray (HCIT) 7-58
Assembly 32: Finisher 7-62
Assembly 33: Finisher cables 7-68
Assembly 34: Envelope option 7-70
Assembly 35: Outdoor media tray option 7-72
Assembly 36: Banner option 7-73
Assembly 37: Options 7-74
Assembly 38: Miscellaneous 7-76

Appendix A—Service tips A-1

Printhead diagnostics A-1
Identifying the printheads A-4
System board cabling reference A-5
Redrive belt routing A-6
Finisher alignment A-7
Duplex option deflector button replacement A-14

Appendix B—Print quality samples B-1

Print Menus—Page one of two B-1
Print Menus—Page two of two B-2
Print tests B-3
Print Quality Pages—Title page (total of five) B-3
Print Quality Pages—Page 1 (total of five) B-4
Print Quality Pages—Page 2 (total of five) B-5
Print Quality Pages—Page 3 (total of five) B-6
Print Quality Pages—Page 4 (total of five) B-7

Registration and alignment B-8
Quick Test Page B-8
Printhead mechanical alignment test page B-9
Printhead electronic alignment test page—Magenta (one of two) B-10
Printhead electronic alignment test page—Magenta (two of two) B-11

Index I-1

Part number index I-9

Notices and safety information

The following laser notice labels may be affixed to this printer as shown:

Laser notice

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for Class I (1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 60825-1.

Class I laser products are not considered to be hazardous. The printer contains internally a Class IIIb (3b) laser that is nominally a 5 milliwatt gallium arsenide laser operating in the wavelength region of 770-795 nanometers. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Laser

Der Drucker erfüllt gemäß amtlicher Bestätigung der USA die Anforderungen der Bestimmung DHHS (Department of Health and Human Services) 21 CFR Teil J für Laserprodukte der Klasse I (1). In anderen Ländern gilt der Drucker als Laserprodukt der Klasse I, der die Anforderungen der IEC (International Electrotechnical Commission) 60825-1 gemäß amtlicher Bestätigung erfüllt.

Laserprodukte der Klasse I gelten als unschädlich. Im Inneren des Druckers befindet sich ein Laser der Klasse IIIb (3b), bei dem es sich um einen Galliumarsenlaser mit 5 Milliwatt handelt, der Wellen der Länge 770-795 Nanometer ausstrahlt. Das Lasersystem und der Drucker sind so konzipiert, daß im Normalbetrieb, bei der Wartung durch den Benutzer oder bei ordnungsgemäßer Wartung durch den Kundendienst Laserbestrahlung, die Klasse I übersteigen würde, Menschen keinesfalls erreicht.

Avis relatif à l’utilisation de laser

Pour les Etats-Unis : cette imprimante est certifiée conforme aux provisions DHHS 21 CFR alinéa J concernant les produits laser de Classe I (1). Pour les autres pays : cette imprimante répond aux normes IEC 60825-1 relatives aux produits laser de Classe I.

Les produits laser de Classe I sont considérés comme des produits non dangereux. Cette imprimante est équipée d’un laser de Classe IIIb (3b) (arséniure de gallium d’une puissance nominale de 5 milliwatts) émettant sur des longueurs d’onde comprises entre 770 et 795 nanomètres. L’imprimante et son système laser sont conçus pour impossible, dans des conditions normales d’utilisation, d’entretien par l’utilisateur ou de révision, l’exposition à des rayonnements laser supérieurs à des rayonnements de Classe I .

Avvertenze sui prodotti laser

Questa stampante è certificata negli Stati Uniti per essere conforme ai requisiti del DHHS 21 CFR Sottocapitolo J per i prodotti laser di classe 1 ed è certificata negli altri Paesi come prodotto laser di classe 1 conforme ai requisiti della norma CEI 60825-1.

I prodotti laser di classe non sono considerati pericolosi. La stampante contiene al suo interno un laser di classe IIIb (3b) all’arseniuro di gallio della potenza di 5mW che opera sulla lunghezza d’onda compresa tra 770 e 795 nanometri. Il sistema laser e la stampante sono stati progettati in modo tale che le persone a contatto con la stampante, durante il normale funzionamento, le operazioni di servizio o quelle di assistenza tecnica, non ricevano radiazioni laser superiori al livello della classe 1.

Avisos sobre el láser

Se certifica que, en los EE.UU., esta impresora cumple los requisitos para los productos láser de Clase I (1) establecidos en el subcapítulo J de la norma CFR 21 del DHHS (Departamento de Sanidad y Servicios) y, en los demás países, reúne todas las condiciones expuestas en la norma IEC 60825-1 para productos láser de Clase I (1).

Los productos láser de Clase I no se consideran peligrosos. La impresora contiene en su interior un láser de Clase IIIb (3b) de arseniuro de galio de funcionamiento nominal a 5 milivatios en una longitud de onda de 770 a 795 nanómetros. El sistema láser y la impresora están diseñados de forma que ninguna persona pueda verse afectada por ningún tipo de radiación láser superior al nivel de la Clase I durante su uso normal, el mantenimiento realizado por el usuario o cualquier otra situación de servicio técnico.

Declaração sobre Laser

A impressora está certificada nos E.U.A. em conformidade com os requisitos da regulamentação DHHS 21 CFR Subcapítulo J para a Classe I (1) de produtos laser. Em outros locais, está certificada como um produto laser da Classe I, em conformidade com os requisitos da norma IEC 60825-1.

Os produtos laser da Classe I não são considerados perigosos. Internamente, a impressora contém um produto laser da Classe IIIb (3b), designado laser de arseneto de potássio, de 5 milliwatts ,operando numa faixa de comprimento de onda entre 770 e 795 nanómetros. O sistema e a impressora laser foram concebidos de forma a nunca existir qualquer possiblidade de acesso humano a radiação laser superior a um nível de Classe I durante a operação normal, a manutenção feita pelo utilizador ou condições de assistência prescritas.

Laserinformatie

De printer voldoet aan de eisen die gesteld worden aan een laserprodukt van klasse I. Voor de Verenigde Staten zijn deze eisen vastgelegd in DHHS 21 CFR Subchapter J, voor andere landen in IEC 60825-1.

Laserprodukten van klasse I worden niet als ongevaarlijk aangemerkt. De printer is voorzien van een laser van klasse IIIb (3b), dat wil zeggen een gallium arsenide-laser van 5 milliwatt met een golflengte van 770-795 nanometer. Het lasergedeelte en de printer zijn zo ontworpen dat bij normaal gebruik, bij onderhoud of reparatie conform de voorschriften, nooit blootstelling mogelijk is aan laserstraling boven een niveau zoals voorgeschreven is voor klasse 1.

Lasermeddelelse

Printeren er godkendt som et Klasse I-laserprodukt, i overenstemmelse med kravene i IEC 60825-1.

Klasse I-laserprodukter betragtes ikke som farlige. Printeren indeholder internt en Klasse IIIB (3b)-laser, der nominelt er en 5 milliwatt galliumarsenid laser, som arbejder på bølgelængdeområdet 770-795 nanometer. Lasersystemet og printeren er udformet således, at mennesker aldrig udsættes for en laserstråling over Klasse I-niveau ved normal drift, brugervedligeholdelse eller obligatoriske servicebetingelser.

Huomautus laserlaitteesta

Tämä kirjoitin on Yhdysvalloissa luokan I (1) laserlaitteiden DHHS 21 CFR Subchapter J -määrityksen mukainen ja muualla luokan I laserlaitteiden IEC 60825-1 -määrityksen mukainen.

Luokan I laserlaitteiden ei katsota olevan vaarallisia käyttäjälle. Kirjoittimessa on sisäinen luokan IIIb (3b) 5 milliwatin galliumarsenidilaser, joka toimii aaltoalueella 770 - 795 nanometriä. Laserjärjestelmä ja kirjoitin on suunniteltu siten, että käyttäjä ei altistu luokan I määrityksiä voimakkaammalle säteilylle kirjoittimen normaalin toiminnan, käyttäjän tekemien huoltotoimien tai muiden huoltotoimien yhteydessä.

VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

VARNING! Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

Laser-notis

Denna skrivare är i USA certifierad att motsvara kraven i DHHS 21 CFR, underparagraf J för laserprodukter av Klass I (1). I andra länder uppfyller skrivaren kraven för laserprodukter av Klass I enligt kraven i IEC 60825-1.

Laserprodukter i Klass I anses ej hälsovådliga. Skrivaren har en inbyggd laser av Klass IIIb (3b) som består av en laserenhet av gallium-arsenid på 5 milliwatt som arbetar i våglängdsområdet 770-795 nanometer. Lasersystemet och skrivaren är utformade så att det aldrig finns risk för att någon person utsätts för laserstrålning över Klass I-nivå vid normal användning, underhåll som utförs av användaren eller annan föreskriven serviceåtgärd.

Laser-melding

Skriveren er godkjent i USA etter kravene i DHHS 21 CFR, underkapittel J, for klasse I (1) laserprodukter, og er i andre land godkjent som et Klasse I-laserprodukt i samsvar med kravene i IEC 60825-1.

Klasse I-laserprodukter er ikke å betrakte som farlige. Skriveren inneholder internt en klasse IIIb (3b)-laser, som består av en gallium-arsenlaserenhet som avgir stråling i bølgelengdeområdet 770-795 nanometer. Lasersystemet og skriveren er utformet slik at personer aldri utsettes for laserstråling ut over klasse I-nivå under vanlig bruk, vedlikehold som utføres av brukeren, eller foreskrevne serviceoperasjoner.

Avís sobre el Làser

Segons ha estat certificat als Estats Units, aquesta impressora compleix els requisits de DHHS 21 CFR, apartat J, pels productes làser de classe I (1), i segons ha estat certificat en altres llocs, és un producte làser de classe I que compleix els requisits d'IEC 60825-1.

Els productes làser de classe I no es consideren perillosos. Aquesta impressora conté un làser de classe IIIb (3b) d'arseniür de gal.li, nominalment de 5 mil.liwats, i funciona a la regió de longitud d'ona de 770-795 nanòmetres. El sistema làser i la impressora han sigut concebuts de manera que mai hi hagi exposició a la radiació làser per sobre d'un nivell de classe I durant una operació normal, durant les tasques de manteniment d'usuari ni durant els serveis que satisfacin les condicions prescrites.

レーザーに関するお知らせ

このプリンターは、米国ではＤＨＨＳ ２１ ＣＦＲサブチャプターＪのクラスＩ（１）の基準を満たしたレーザー製品であることが証明されています。また米国以外ではＩＥＣ ８２５の基準を満たしたクラスＩのレーザー製品であることが証明されています。

クラスＩのレーザー製品には危険性はないと考えられています。このプリンターはクラスⅢｂ（３ｂ）のレーザーを内蔵しています。このレーザーは、波長が７７０ ～ ７９５ナノメーターの範囲で、通常５ミリワットのガリウム砒化物を放射するレーザーです。このレーザーシステムとプリンターは、通常の操作、ユーザのメンテナンス、規定された修理においては、人体がクラスＩのレベル以上のレーザー放射に晒されることのないよう設計されています。

注意：

本打印机被美国认证合乎 DHHS 21 CFR Subchapter I 对分类 I (1) 激光产品的标准，而在其他地区则被认证合乎 IEC 825 的标准。

分类 I 激光产品一般认为不具危险性，本打印机内部含有分类 IIIb (3b) 的激光，在操作过程中会产生 5 毫瓦含镓及砷的微量激光，其波长范围在 770-795 nm 之间。本激光系统及打印机的设计，在一般操作、使用者维护或规定内的维修情况下，不会使人体接触分类 I 以上等级的辐射。

본프린터는 1등급 레이저 제품들에 대한 DHHS 21 CFR Subchapter 3의 규정을 준수하고 있음을 미국에서 인증받았으며, 그외의 나라에서도 IEC 825 규정을 준수하는 1등급 레이저 제품으로서 인증을 받았습니다.

1등급 레이저 제품들은 안전한 것으로 간주됩니다. 본 프린터는 5 밀리와트 갤륨 아르세나이드 레이저로서 770-795 나노미터의 파장대에서 활동하는 Class III (3b) 레이저를 내부에 갖고 있습니다. 본 레이저 시스템과 프린터는 정상 작동 중이나 유지 보수 중 또는 규정된 서비스 상태에서 상기의 Class I 수준의 레이저 방출에 사람이 절대 접근할 수 없도록 설계되어 있습니다.

Safety information

- The safety of this product is based on testing and approvals of the original design and specific components. The manufacturer is not responsible for safety in the event of use of unauthorized replacement parts.
- The maintenance information for this product has been prepared for use by a professional service person and is not intended to be used by others.
- There may be an increased risk of electric shock and personal injury during disassembly and servicing of this product. Professional service personnel should understand this and take necessary precautions.
- **CAUTION:** When you see this symbol, there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.

Consignes de sécurité

- La sécurité de ce produit repose sur des tests et des agréations portant sur sa conception d'origine et sur des composants particuliers. Le fabricant n'assume aucune responsabilité concernant la sécurité en cas d'utilisation de pièces de rechange non agréées.
- Les consignes d'entretien et de réparation de ce produit s'adressent uniquement à un personnel de maintenance qualifié.
- Le démontage et l'entretien de ce produit pouvant présenter certains risques électriques, le personnel d'entretien qualifié devra prendre toutes les précautions nécessaires.
- **ATTENTION :** Ce symbole indique la présence d'une tension dangereuse dans la partie du produit sur laquelle vous travaillez. Débranchez le produit avant de commencer ou faites preuve de vigilance si l'exécution de la tâche exige que le produit reste sous tension.

Norme di sicurezza

- La sicurezza del prodotto si basa sui test e sull'approvazione del progetto originale e dei componenti specifici. Il produttore non è responsabile per la sicurezza in caso di sostituzione non autorizzata delle parti.
- Le informazioni riguardanti la manutenzione di questo prodotto sono indirizzate soltanto al personale di assistenza autorizzato.
- Durante lo smontaggio e la manutenzione di questo prodotto, il rischio di subire scosse elettriche e danni alla persona è più elevato. Il personale di assistenza autorizzato deve, quindi, adottare le precauzioni necessarie.
- **ATTENZIONE:** Questo simbolo indica la presenza di tensione pericolosa nell'area del prodotto. Scollegare il prodotto prima di iniziare o usare cautela se il prodotto deve essere alimentato per eseguire l'intervento.

Sicherheitshinweise

- Die Sicherheit dieses Produkts basiert auf Tests und Zulassungen des ursprünglichen Modells und bestimmter Bauteile. Bei Verwendung nicht genehmigter Ersatzteile wird vom Hersteller keine Verantwortung oder Haftung für die Sicherheit übernommen.
- Die Wartungsinformationen für dieses Produkt sind ausschließlich für die Verwendung durch einen Wartungsfachmann bestimmt.
- Während des Auseinandernehmens und der Wartung des Geräts besteht ein zusätzliches Risiko eines elektrischen Schlags und körperlicher Verletzung. Das zuständige Fachpersonal sollte entsprechende Vorsichtsmaßnahmen treffen.
- **ACHTUNG:** Dieses Symbol weist auf eine gefährliche elektrische Spannung hin, die in diesem Bereich des Produkts auftreten kann. Ziehen Sie vor den Arbeiten am Gerät den Netzstecker des Geräts, bzw. arbeiten Sie mit großer Vorsicht, wenn das Produkt für die Ausführung der Arbeiten an den Strom angeschlossen sein muß.

Pautas de Seguridad

- La seguridad de este producto se basa en pruebas y aprobaciones del diseño original y componentes específicos. El fabricante no es responsable de la seguridad en caso de uso de piezas de repuesto no autorizadas.
- La información sobre el mantenimiento de este producto está dirigida exclusivamente al personal cualificado de mantenimiento.
- Existe mayor riesgo de descarga eléctrica y de daños personales durante el desmontaje y la reparación de la máquina. El personal cualificado debe ser consciente de este peligro y tomar las precauciones necesarias.
- **PRECAUCIÓN:** este símbolo indica que el voltaje de la parte del equipo con la que está trabajando es peligroso. Antes de empezar, desenchufe el equipo o tenga cuidado si, para trabajar con él, debe conectarlo.

Informações de Segurança

- A segurança deste produto baseia-se em testes e aprovações do modelo original e de componentes específicos. O fabricante não é responsável pela segunrança, no caso de uso de peças de substituição não autorizadas.
- As informações de segurança relativas a este produto destinam-se a profissionais destes serviços e não devem ser utilizadas por outras pessoas.
- Risco de choques eléctricos e ferimentos graves durante a desmontagem e manutenção deste produto. Os profissionais destes serviços devem estar avisados deste facto e tomar os cuidados necessários.
- **CUIDADO:** Quando vir este símbolo, existe a possível presença de uma potencial tensão perigosa na zona do produto em que está a trabalhar. Antes de começar, desligue o produto da tomada eléctrica ou seja cuidadoso caso o produto tenha de estar ligado à corrente eléctrica para realizar a tarefa necessária.

Informació de Seguretat

- La seguretat d'aquest producte es basa en l'avaluació i aprovació del disseny original i els components específics.
  El fabricant no es fa responsable de les qüestions de
  seguretat si s'utilitzen peces de recanvi no autoritzades.
- La informació pel manteniment d'aquest producte està orientada exclusivament a professionals i no està destinada
  a ningú que no ho sigui.
- El risc de xoc elèctric i de danys personals pot augmentar durant el procés de desmuntatge i de servei d'aquest producte. El personal professional ha d'estar-ne assabentat i prendre
  les mesures convenients.
-
  PRECAUCIÓ: aquest símbol indica que el voltatge de la part de l'equip amb la qual esteu treballant és perillós. Abans de començar, desendolleu l'equip o extremeu les precaucions si, per treballar amb l'equip, l'heu de connectar.

안전 사항

- 본 제품은 원래 설계 및 특정 구성품에 대한 테스트 결과로 안정성이 입증된 것입니다. 따라서 무허가 교체부품을 사용하는 경우에는 제조업체에서 안전에 대한 책임을 지지 않습니다.
- 본 제품에 관한 유지 보수 설명서는 전문 서비스 기술자 용으로 작성된 것이므로, 비 전문가는 사용할 수 없습니다.
- 본 제품을 해체하거나 정비할 경우, 전기적인 충격을 받거나 상처를 입을 위험이 커집니다. 전문 서비스 기술자는 이 사실을 숙지하고, 필요한 예방 조치를 취하도록 하십시오.
-
  주의: 이 표시는 해당 영역에서 고압 전류가 흐른다는 위험 표시 입니다. 시작 전에 플러그를 뽑으시거나, 주의를 기울여 주시기 바랍니다.

安全信息

本产品的安全性以原来设计和特定产品的测试结果和认证为基础。万一使用未经许可的替换部件，制造商不对安全性负责。

本产品的维护信息仅供专业服务人员使用，并不打算让其他人使用。

本产品在拆卸、维修时，遭受电击或人员受伤的危险性会增高，专业服务人员对这点必须有所了解，并采取必要的预防措施。

切记：当您看到此符号时，说明在您工作的产品区域有危险电压的存在。请在开始操作前拔掉产品的电源线，或者在产品必须使用电源来执行任务时，小心从事。

Preface

This manual contains maintenance procedures for service personnel. It is divided into the following chapters:

1. **General information** contains a general description of the printer and the maintenance approach used to repair it. Special tools and test equipment are, as well as general environmental and safety instructions.
2. **Diagnostic information** contains an error indicator table, symptom tables, and service checks used to isolate failing field replaceable units (FRUs).
3. **Diagnostic aids** contains tests and checks used to locate or repeat symptoms of printer problems.
4. **Repair information** provides instructions for making printer adjustments and removing and installing FRUs.
5. **Connector locations** uses illustrations to identify the connector locations and test points on the printer.
6. **Preventive maintenance** contains the lubrication specifications and recommendations to prevent problems.
7. **Parts catalog** contains illustrations and part numbers for individual FRUs.
   Appendix A contains service tips and information.
   Appendix B contains representative print samples.

Definitions

Note: A note provides additional information.

Warning: A warning identifies something that might damage the product hardware or software.

CAUTION: A caution identifies something that might cause a servicer harm.

CAUTION: When you see this symbol, there is a danger from hazardous voltage in the area of the product where you are working. Unplug the product before you begin, or use caution if the product must receive power in order to perform the task.

1. General information

The Lexmark™ C76x is a network-capable color printer that uses electrophotographic technology to deliver high quality images, presentation graphics, line art, and text. It prints up to 25 pages per minute (ppm) for both four-color and monochrome print jobs.

The flexible design supports a variety of printing needs. For example, if you need the printer to match the color process used in a particular application, you can select RGB or CMYK color corrections. You can also adjust the printed colors to more closely represent the colors on your computer display.

A variety of connectivity options enable the printer to be used in all types of system environments. You can attach one internal adapter to support network configurations requiring Ethernet, Token-Ring, LocalTalk, serial, infrared, or additional parallel ports.

The printer has flexible paper handling. It supports a wide variety of paper sizes, and has a standard multipurpose feeder that makes it easy to print on envelopes, transparencies, labels, card stock, and non-standard size paper. You can add optional inputs to the base printer, which can increase the printer paper capacity to 3100 sheets.

The Lexmark C76*x* (5060-4*xx*) laser printer is available in four models:

Lexmark C760	5060-401	Non-network
Lexmark C760	5060-402	Network
Lexmark C762	5060-421	Non-network
Lexmark C762	5060-422	Network

Tools required for service

Flat-blade screwdriver
#1 Phillips screwdriver, magnetic
#2 Phillips screwdriver, magnetic
#2 Phillips screwdriver, magnetic short-blade
Needlenose pliers
Diagonal side cutters
Spring hook
Feeler gauges
Analog or digital multimeter
Parallel wrap plug 1319128
Twinax/serial debug cable 1381963
Coax/serial debug cable 1381964

Options and features

Lexmark C76x paper handling options support the Lexmark C750/C752/C76x printers, however the color of the covers do not match the C750 and C752 models. The C76x envelope drawer is not compatible with the C750.

Note: Do not use Lexmark C750/C752 options on the Lexmark C76x printers.

- 500-Sheet drawer - (includes 500-sheet tray and support unit) installs beneath the printer and holds approximately 500 sheets of 20 lb, 75 g/m^2 paper. Up to three drawers are supported simultaneously, or an option drawer and high-capacity input tray. All models of Lexmark C76x.
- 500-Sheet tray - tray for special media temporarily replaces the standard tray in a 500-sheet drawer and holds approximately 500 sheets of 20 lb, 75 g/m^2 paper. All models of Lexmark C76x.
- Duplex option - offers two-side printing. The first option under a duplex option must be a 500-sheet drawer. All models of Lexmark C76x.
- 2,000-Sheet drawer (HCIT) - installs beneath the printer and below any other optional input sources and holds approximately 2,000 sheets of 20 lb, 75 g/m^2 paper. Models 421 and 422.
- Output expander - installs above the printer primary output bin to offer an additional output destination. This holds approximately 650 sheets of 20 lb, 75 g/m^2 paper. Only one output option above the printer is supported. Models 421 and 422.
- 5-Bin mailbox - installs above the printer primary output bin to offer five output destinations in one option. Each of the five bins supports approximately 100 pages of 20 lb, 75 g/m^2 paper. Only one output option above the printer is supported. Models 421 and 422.
- Finisher - offers stapling, hole punching, offset stacking and an additional output bin. Two models are available, a short and a tall one. Hole punching for 2-, 3-, or 4-hole left-edge is available. The single staple position is the upper left corner. The finisher supports up to 3,000 sheets of non-stapled, non-punched media. For stapled media, the output bin supports up to 90 stapled sets or 2,700 sheets. The stapler staples a maximum of 30 sheets per set. Each printer supports one finisher. Models 421 and 422.
- Envelope drawer - installs beneath the printer, and holds approximately 60 envelopes (20 lb, 75 g/m^2). Up to three envelope drawer are supported or one envelope drawer and a high-capacity input tray. Models 421 and 422.
- Outdoor media drawer - installs beneath the printer and holds up to 100 sheets of outdoor media suitable for outdoor use. Models 421 and 422 only.
- Banner tray - extension allows printing of banner-width paper. Models 421 and 422 only.

High performance

- Up to 25 ppm black or color
- 500 MHz RISC processor (non-network) or 600 MHz (network)
- 128MB RAM
- Time to first page
  - Black: less than 13 seconds
  - Color: less than 15 seconds

Print quality

1200 x 1200 dpi and 4800 CQ.

Heavy volume reliability

- Up to 4,000-page average monthly duty cycle
- Up to 60,000-page maximum duty cycle based on a single month usage

Automatic calibration

The printer performs an automatic calibration under the following conditions.

- At power-on
- After eight hours of power saver
- Approximately every 500 pages, at the end of a job
- After changing a print cartridge
- After changing an image transfer unit (ITU)

A manual calibration can be initiated by selecting **Color Adjust** from the Color Menu.

Resolution

- 1200 x 1200 dpi (one half printer speed)
- 4800 CQ (default 00B) (full printer speed)

Toner darkness

Toner darkness settings offer five user-selectable settings to balance print darkness and toner savings. The higher the setting, the darker the print. The toner darkness default setting is 4. Color level 4 and level 5 are the same.

The toner darkness setting is available through the operator panel under the Print Quality menu or through the Lexmark PostScript driver.

Setting	**1**	**2**	**3**	**4**	**5**
Delta toner from default (mono)	-50%	-30%	-15%	Default	+10%
Delta toner from default (color)	-50%	-30%	-15%	Default	N/A

Color correction settings

The following correction settings are available:

- Auto (default): Applies different color correction to each object on the printed page depending upon the type of object and how the color for each object is specified.
- Off: No color correction is implemented.
- Manual: Allows users to customize color correction output from the driver or operator panel.

Printer specifications

Description	Width	Depth	Height	Weight
Printer				
Lexmark C76x(n)	23.8 in. (604.5 mm)	18.5 in. (469.9 mm)	20.8 in. (528.3 mm)	105 lb (47.7 kg)
Lexmark C76xdn (including duplex option)	23.8 in. (604.5 mm)	18.5 in. (469.9 mm)	24.3 in (617.2 mm)	118 lb (53.8 kg)
Lexmark C76xdtn (including duplex and optional 500-sheet drawer)	23.8 in. (604.5 mm)	18.5 in. (469.9 mm)	28.9 in. (734.1 mm)	132 lb (60 kg)
Lexmark C762 with Finisher T (including duplex unit, optional 500-sheet drawer, 2000-sheet drawer, and finisher T)	59.4 in. (1508.8 mm)	28.1 in. (713.7 mm)[1]	43.5 in. (1104.9 mm)	274.5 lb (124.7 kg)
Lexmark C762 with maximum input trays[3] (including duplex unit, three optional 500-sheet drawer, and printer stand)	23.8 in. (604.5 mm)	18.5 in. (469.9 mm)	41.4 in. (1051.6 mm)	179. lb (81.4 kg)
Lexmark C762 with maximum input sheets[4] (including duplex unit, optional 500-sheet drawer, 2000-sheet drawer)	23.8 in. (604.5 mm)	23.8 in. (604.5 mm)[2]	43.5 in. (1104.9 mm)	181 lb (82.3 kg)
Options				
500-sheet drawer	23.8 in. (604.5 mm)	18.5 in. (469.9 mm)	5 in. (127 mm)	13.5 lb (6.1 kg)
Duplex option	23.8 in. (604.5 mm)	18.5 in. (469.9 mm)	3.5 in. (88.9 mm)	13.5 lb (6.1 kg)
2,000-sheet tray*	26 in. (660.4 mm)	23.8 in. (604.5 mm)[2]	15.4 in. (391.2 mm)	49 lb (22.3 kg)
Outdoor media drawer	23.8 in. (604.5 mm)	18.5 in. (469.9 mm)	5 in. (127 mm)	13.5 lb (6.1 kg)
Envelope drawer	23.8 in. (604.5 mm)	18.5 in 469.9 mm	5 in. (127 mm)	13.5 lb (6.1 kg)
Output expander*	14.5 in. (368.3 mm)	18.5 in. (469.9 mm)	7 in (177.8 mm)	4.5 lb (2 kg)
5-bin mailbox*	14.5 in. (368.3 mm)	18.5 in. (469.9 mm)	11.5 in. (292.1 mm)	8.2 lb (3.7 kg)
Finisher S*	33.5 in. (850.9 mm)	28.1 in. (713.7 mm)[1]	40.4 in. (1026.2 mm)	93.5 lb (42.5 kg)
Finisher T*	33.5 in. (850.9 mm)	28.1 in. (713.7 mm)[1]	42.5 in. (1079.5 mm)	93.5 lb (42.5 kg)
Printer stand	26 in. (660.4 mm)	24.2 in. (614.7 mm)[2]	4.2 in. (106.7 mm)	20 lb (9.1 kg)

1 Includes stabilizer bars on Finisher T and 2000-sheet drawer.

2 Includes stabilizer bars.

3 Printer stack required for Finisher S.

4 Printer stack required for Finisher T.

Power and electrical specifications

Average nominal power requirements for the base printer configuration (110 volt). (Power levels are shown in watts.) Maximum current shown in amp ergs.

Printing states	**Lexmark C76x(n)**	**Lexmark C76xdn**
Printing - average power		
Base model	500	500
All options	540	540
Idle - average power		
Power Saver On	30	31
Power Saver Off	180	180
Printing - average current (110 V)	5.3	5.3
Printing - maximum current (110 V)	10.2	10.2

Note: Using a 220 to 110 power converter with the 110 volt printer is not recommended.
All models are Energy Star compliant.

Electrical specifications

110 Volt model

- 110 to 127 V ac at 47 to 63 hertz (hz) nominal
- 99 to 137 V ac, extreme

Operating clearances

Printer Side	**Model**	**Measurement**
Left side	All	24 in. (609.6 mm)
Right side	All	15 in. (381 mm)[1]
Front	All	20 in. (508 mm)
Rear	All	12 in. (304.8 mm)
Top	C76x(n)	42 in. (1,066.8 mm)[2]
	C76xdn	34 in. (863.6 mm)[2]
[1]Allow 1,219 mm (48 in.) clearance to the right if you are adding a finisher. [2]Allow clearance above the printer front door clearance and for adding options, such as additional input drawers, output expander or 5-bin mailbox.		

Acoustics

All measurements are made in accordance with ISO 7779 and conform with ISO 9296.

Model	**Status**	**1-Meter average sound pressure**
Lexmark C76x(n)	4800 CQ printing	52 dBA
	Idle (standby)	34 dBA
Lexmark C76xdn	4800 CQ printing	52 dBA
	Idle (standby)	34 dBA

Environment

Printer Temperature and Humidity

- Operating
  - Temperature: 60 to 90° F (15.6 to 32.3° C)
  - Relative humidity: 8 to 80%
  - Maximum wet bulb temperature: 73° F (22.8° C)
  - Altitude: 10,000 ft. (0 to 3,048 meters)
  - Atmospheric pressure: 74.6 kPa
- Power off
  - Temperature: 50 to 110° F (10 to 43.3° C)
  - Relative humidity: 8 to 80%
  - Maximum wet bulb temperature: 80.1° F (26.7° C)
  - Altitude: 10,000 ft. (0 to 3,048 meters)
  - Atmospheric pressure: 74.6 kPa
- Ambient operating environment*
  - Temperature: 60 to 90° F (15.6 to 32.2° C)
  - Relative humidity: 8 to 80%
- Storage and shipping (packaged printer) with or without print cartridge
  Temperature: -40 to 110° F (-40 to 43.3° C)
- Print cartridge
  Temperature: -40 to 110° F (-40 to 43.3° C)

*In some cases, performance specifications (such as paper OCF, EP cartridge usage) are measured at an ambient condition.

Print speed and performance print speed

Media size—Tray 1

Simplex printing on letter-size media (pages per minute), duplex printing on letter-size media (sides per minute)			
Media name	**Media size**	**4800 CQ**	**1200 x 1200 dpi**
Full size media, full rated engine speed			
Letter	8.5 in. x 11 in.	25	10
A4	8.3 in. x 11.7 in.	23.5	9.5
Legal	8.5 in. x 14 in.	20	8.1
Full size media, reduced rated engine speed (one half)			
Transparencies	8.5 in. x 11 in.	10	10
Card stock	8.5 in. x 11 in.	10	10
Labels	8.5 in. x 11 in.	10	10
Coated Paper	8.5 in. x 11 in.	10	10
Coated Cover	8.5 in. x 11 in.	10	10

Media size—Tray 1

Smaller sizes, reduced throughput[b]			
Nearly narrow (for example, B5 or Exec)	More than 6.8 in., but less than 8.3 in. wide	25	10
Narrow media[a] (for example, A5).	Less than 6.8 in. wide	10	10
[a] The first 25 narrow pages print at rated speed; subsequent pages print at the speed shown.			
[b] Once the printer enters a reduced throughput mode as indicated, the printer remains at the given speed after the last sheet of smaller media, until the fuser return to standby temperature.			

Media size—Multipurpose feeder

Simplex printing on letter-size media (pages per minute), duplex printing on letter-size media (sides per minute)			
Media name	**Media size**	**4800 CQ**	**1200 x 1200 dpi**
Full size media, full rated engine speed[d]			
Letter	8.5 in. x 11 in.	22.5	9
Duplex (letter)	8.5 in. x 11 in.	22.5	9
A4	8.3 in. x 11.7 in.	21.5	8.6
Legal	8.5 in. x 14 in.	18.6	7.5
Full size media, reduced rated engine speed (one half)[d]			
Transparencies	8.5 in. x 11 in.	9	9
Cardstock	8.5 in. x 11 in.	9	9
Labels	8.5 in. x 11 in.	9	9
Coated Paper	8.5 in. x 11 in.	9	9
Coated Cover	8.5 in. x 11 in.	9	9
Smaller sizes, reduced throughput[b, c]			
Nearly narrow (for example, B5 or Exec)	More than 6.8 in., but less than 8.3 in. wide	22.5	9
Narrow media[a] (for example, A5).	Less than 6.8 in. wide	9	9
Envelopes[b]	All supported sizes	9	9
[a] The first 25 narrow pages print at rated speed; subsequent pages print at the speed shown.			
[b] All envelope sizes print at 1200 dpi process speeds, as shown.			
[c] Once the printer enters a reduced throughput mode as indicated, the printer remains at the given speed after the last sheet of smaller media, until the fuser return to standby temperature.			
[d] After media has been added to an empty MPF, the first three pages print at speed. The remainder of the pages print at the speed indicated until the MPF is empty. the speed change occurs each time media is added to an empty MPF.			

Performance

Performance speed depends on:

- Interface to the host (USB, serial, parallel, network)
- Host system and application
- Page complexity and content
- Printer options installed or selected
- Available printer memory
- Media size and type
- Resolution
- Printer usage setting

Time to first print

Time to first print from standby mode[ab]

- Black: <13 seconds
- Color: <15 seconds

Time to first print from power saver mode[a]

- Black: <120 seconds
- Color: <120 seconds

Notes:

[a]All first copy times are measured for 600 image quality, simplex printing on letter-size paper. The test job consists of the character “A” followed by a form feed (single-page job). The first copy time is defined as the elapsed time from pressing **Enter** on the keyboard to the page exiting to the output bin. All tests pick paper from the primary input tray and the page exits into the primary output bin.
[b]Standby times may be longer if the toner control senses that toner flow needs to be checked or adjusted.

Processor

	Lexmark C76x	**Lexmark C76x(n), dn**
Processor frequency (Mhz)	500	600
Bus frequency (Mhz)	100	100

Duty cycle

- Up to 60,000 pages maximum one-time usage
- Up to 4,000 pages per month average usage

Memory configuration

DRAM memory	**Lexmark C76x(n), dn**	**Lexmark C76xdtn, fn**
Standard	128MB	256MB
Maximum	512MB	512MB

Available memory options

Optional 64MB, 128MB, 256MB and 512MB SDRAM DIMMs are available from Lexmark. The memory options are 168-pin synchronous DRAM DIMMs (dual in-line memory modules) meeting or exceeding the following specifications:

- 100MHz or greater
- 4KB refresh rate
- Unbuffered, non ECC
- x32
- 3.3 V

Unpredictable results may occur if an attempt is made to operate the printer with memory other than SDRAM DIMM memory with the stated specifications.

Flash Memory Options 16, 32 (Nand Flash)

Expansion

- Memory slot for extra flash or DRAM
- Expansion slot for optional interface cards
- Code expansion slot (application solution firmware cards)
- On-board hard disk interface (for optional hard disk)

Additional memory may be required for printing complex pages or full-page, high-resolution images in 1200 image quality at rated speeds.

Media specifications

Media input and output capacities

The capacities listed below are based on plain paper at 75g/m^2.

Media source or output description	Capacity (sheets)							
	Lexmark C760	**Lexmark C760n**	**Lexmark C760dn**	**Lexmark C760dtn**	**Lexmark C762**	**Lexmark C762n**	**Lexmark C762dn**	**Lexmark C762dtn**
Input								
Standard input sources								
Tray 1	500	500	500	500	500	500	500	500
Tray 2	N/A	N/A	N/A	500	N/A	N/A	N/A	500
Multipurpose tray	100	100	100	100	100	100	100	100
Maximum total standard capacity (sheets)	600	600	600	1100	600	600	600	1100
Optional available input sources								
500-Sheet drawer[3] (maximum of 3 or only 1 with a 2000-sheet drawer)[1]	500-1500	500-1500	500-1500	500-1000	500-1500	500-1500	500-1500	500-1500
2000-Sheet drawer (maximum of one)	N/A	N/A	N/A	N/A	2000	2000	2000	2000
Envelope drawer (maximum of 3 or only 1 with a 2000-sheet drawer)[1]	N/A	N/A	N/A	N/A	60	60	60	60
Outdoor media drawer	N/A	N/A	N/A	N/A	100	100	100	100
Banner tray	N/A	N/A	N/A	N/A				
Maximum additional drawers	1	1	1	0	3	3	3	2
Maximum input capacity[2]								
With added drawers (no high-capacity input tray)	1100	1100	1100	1100	2100	2100	2100	2100
With added drawer and high-capacity input tray	1100	1100	1100	1100	3100	3100	3100	3100

Media source or output description	Capacity (sheets)							
	Lexmark C760	**Lexmark C760n**	**Lexmark C760dn**	**Lexmark C760dtn**	**Lexmark C762**	**Lexmark C762n**	**Lexmark C762dn**	**Lexmark C762dtn**
Output								
Standard output bin capacity	250	250	250	250	250	250	250	250
Optional outputs								
5-Bin mailbox (maximum of one)	N/A	N/A	N/A	N/A	500	500	500	500
Output Expander	N/A	N/A	N/A	N/A	650	650	650	650
Finisher S or T[4] (maximum of one)	N/A	N/A	N/A	N/A	3000	3000	3000	3000
Maximum output paper capacity	250	250	250	250	3900	3900	3900	3900

[1] Two versions are available: One configuration is a printer, duplex unit, optional 500-sheet drawer, and a 2000-sheet drawer; The other configuration is a printer, duplex unit, and 3 optional 500-sheet drawers, and a printer stand.

[2] A maximum combination of three optional 500-sheet drawers or a maximum combination of one optional 500-sheet drawer plus one 2000-sheet drawer is supported on any model.

[3] An optional 500-sheet drawer is required for a 2000-sheet Drawer and a Duplex Unit. The first option under a duplex unit must be a 500-sheet drawer.

Media type

Media type	**500-sheet input**	**Multipurpose tray**	**Envelope drawer***	**2,000-sheet drawer***	**Outdoor media tray***	**Banner tray***	**Duplex**	**Standard output**	**5-bin mailbox***	**Output expander***	**Finisher to staple, hole punch, offset stack stack or with output bin***
Paper	x	x		x		x	x	x	x	x	x
Card stock	x	x					x	x		x	
Transparencies	x	x						x		x	
Envelopes		x	x					x		x	
Vinyl labels	x	x						x		x	
Paper labels	x	x					x	x	x	x	
Polyester labels	x	x						x	x	x	
Dual web labels	x	x					x	x	x	x	
Integrated labels	x	x					x	x	x	x	
Outdoor media					x						

* Available in models 221 and 222 only.

Media size

Media size supported	500-sheet input	Multipurpose tray	Envelope drawer[8]	2,000-sheet drawer[8]	Outdoor media tray[8]	Banner tray[8]	Duplex	Standard output	5-bin mailbox[8]	Output expander[8]	Finisher to staple, hole punch, offset stack or with output bin[8]
A4 8.27 in. x 11.7 in. (210 mm x 297 mm)	x	x		x			x	x	x	x	x [5, 6, 7]
A5 5.83 in. x 8.27 in. (148 mm x 210 mm)	x	x		x			x	x		x	x [5]
JIS-B5 7.17 in. x 10.12 in. (182 mm x 257 mm)	x	x		x			x	x	x	x	x [5]
Statement 5.5 in. x 8.5 in. (140 mm x 216 mm)[4]	x	x					x	x		x	x [5]
Letter 8.5 in. x 11 in. (216 mm x 279 mm)	x	x		x			x	x	x	x	x [5, 6, 7]
Folio 8.5 in. x 13 in. (216 mm x 330 mm)[4]	x	x					x	x	x	x	x [5, 6, 7]
Legal 8.5 in. x 14 in. (216 mm x 356 mm)	x	x		x			x	x	x	x	x [5, 6, 7]
Executive 7.25 in. x 10.5 in. (184 mm x 267 mm)	x	x		x			x	x	x	x	x [6, 7]
Banner 11.69 x 36 in. (297.2 x 914.4 mm)						x					
Outdoor media[9]											
7 x 10 in. (178 mm x 254 mm)					x						
7 x 11 in. (178 mm x 279 mm)					x						
8 x 10 in. (203 mm x 254 mm)					x						
8.5 x 11 in. (216 x 279 mm)					x						
Universal[1]											
5.5 x 8.27 in. to 8.5 x 14 in. (139.7 x 210 mm to 215.9 x 355.6 mm)	x	x					x	x	x	x	
2.75 x 5 in. to 9.01 x 14 in. (69.85 x 127 mm to 229 x 355.6 mm)		x						x	x	x	
5.83 x 7.17 in. to 8.5 x 14 in. (148 x 182 mm to 215.9 x 355.6 mm)	x	x					x	x	x	x	

Media size supported	500-sheet input	Multipurpose tray	Envelope drawer[8]	2,000-sheet drawer[8]	Outdoor media tray[8]	Banner tray[8]	Duplex	Standard output	5-bin mailbox[8]	Output expander[8]	Finisher to staple, hole punch, offset stack or with output bin[8]
Envelope											
7 ¾ Envelope 3.875 in. x 7.5 in. (98 mm x 191 mm)		x	x					x		x	
9 Envelope 3.875 in. x 8.9 in. (98 mm x 225.4 mm)		x	x					x		x	
10 Envelope 4.125 in. x 9.5 in. (105 mm x 241 mm)		x	x					x		x	
DL Envelope 4.33 in. x 8.66 in. (110 mm x 220 mm)		x	x					x		x	
C5 Envelope 6.38 in. x 9.01 in. (162 mm x 229 mm)		x	x					x		x	
B5 Envelope 6.93 in. x 9.84 in. (176 mm x 250 mm)		x	x					x		x	
Other envelope[3] 3.87 x 6.38 in. to 6.93 x 9.84 in. (98.4 x 162 mm to 176 x 250 mm)		x	x					x		x	

[1] When Universal is selected, the page is formatted for 8.5 x 14 in. (215.9 x 355.6 mm), unless the size is specified in the software application.

[2] Narrow media should be loaded with the length in the feed direction (portrait).

[3] When Other Envelope is selected, the page is formatted for 8.5 x 14 in. (215.9 x 355.6 mm) unless the size is specified in the software application.

[4] Statement and Folio are supported as standard size through software only. Tray size sensing must be turned off before this standard size is visible in the paper-size menu on the operator panel.

[5] 2-hole punch is supported.

[6] 3-hole punch is supported.

[7] 4-hole punch is supported.

[8] Option available on models 221 and 222 only.

[9] Use only approved outdoor media in the outdoor media tray.

Input media types and weights

Media		Weight
Integrated trays[f] and optional 500-sheet drawer		
Paper [b, f]	Xerographic or business paper	16 to 19.9 lb bond (60 to 74.9 g/m^2 grain long) 20 to 47 lb bond (75 to 176 g/m^2 grain long)
	Specialty papers Gloss book	60 to 120 lb book (88 to 176 g/m^2 grain long)
	Gloss cover	60 to 65 lb cover (162 to 176 g/m^2 grain long)
Card stock - upper limit (grain long)[a, f]	Index	90 lb (163 g/m^2)
	Bristol Tag	100 lb (163 g/m^2)
	Cover	65 lb (176 g/m^2)
	Card stock - upper limit (grain short) [a, f]	
	Index Bristol	110 lb (199 g/m^2)
	Tag	125 lb (203 g/m^2)
	Cover	80 lb (216 g/m^2)
Transparencies[i, j]	Laser printer type	43 to 45 lb bond (161 to 169 g/m^2)
Labels - upper limit	Paper	48 lb bond (180 g/m^2)
	Dual-web paper	48 lb bond (180 g/m^2)
	Polyester	59 lb bond (220 g/m^2)
	Vinyl [g, h]	92 lb liner (300 g/m^2)
Integrated forms	Pressure sensitive area [c]	(140 to 175 g/m^2)
	Paper base (grain long)	20 to 36 lb bond (75 to 135 g/m^2)
Multipurpose Feeder		
Paper [b, f]	Xerographic or business paper	16 to 19.9 lb bond (60 to 74.9 g/m^2 grain long) 20 to 47 lb bond (75 to 176 g/m^2 grain long)
Specialty papers	Gloss book	60 to 120 lb book (88 to 176 g/m^2 grain long)
	Gloss cover	60 to 65 lb cover (162 to 176 g/m^2 grain long)
Card stock - upper limit (grain long)[a, f]	Index Bristol	90 lb (163 g/m^2)
	Tag	100 lb (163 g/m^2)
	Cover	65 lb (176 g/m^2)
Card stock - upper limit (grain short) [a, f]	Index Bristol	110 lb (199 g/m^2)
	Tag	125 lb (203 g/m^2)
	Cover	80 lb (216 g/m^2)
Transparencies [i, j]	Laser printer type	43 to 45 lb bond (161 to 169 g/m^2)
	Labels - upper limit	
	Paper	53 lb bond (199 g/m^2)
	Dual-web paper	53 lb bond (199 g/m^2)
	Polyester	59 lb bond (220 g/m^2)
	Vinyl [g, h]	78 lb liner (260 g/m^2)
Integrated forms	Pressure sensitive area [c]	Up to 47 lb bond (140 to 175 g/m^2)
	Paper base (grain long)	20 to 36 lb bond (75 to 135 g/m^2)
Envelopes [d, e]	Sulfite, wood-free or up to 100% cotton bond	16 to 28 lb bond (60 to 105 g/m^2)

Media		Weight
2,000-Sheet drawer		
Paper [b, f]	Xerographic or business paper	16 to 19.9 lb bond (60 to 74.9 g/m^2 grain long) 20 to 47 lb bond (75 to 176 g/m^2 grain long)
Specialty papers	Gloss book	60 to 120 lb book (88 to 176 g/m^2 grain long)
	Gloss cover	60 to 65 lb cover (162 to 176 g/m^2 grain long)

[a] For 60 to 176 g/m^2 paper, grain long fibers are recommended. For papers heavier than 176 g/m^2, grain short is preferred.

[b] Paper less than 75 g/m2 limited to less than 60% relative humidity and is not supported in duplex.

[c] Pressure-sensitive area must enter the printer first.

[d] 100% cotton content maximum weight is 24 lb bond. 28 lb envelopes are limited to 25% cotton content.

[e] 28 lb bond envelopes are limited to 25% cotton content.

[f] The duplex option supports the same types and weights as the printer except 16 to 19.9 lb (60 to 74.9 g/m^2) grain long paper, transparencies, labels, envelopes or A5 card stock.

[g] Vinyl labels are supported only when printing environment and media are 20 to 23° C (68 to 90°F).

[h] Refer to the Converter Listing on Lexmark's Home Page and Automated FAX system (*LEXFAX*^{SM}) for information on whether your vinyl label converter has passed Lexmark's criteria. Refer to the *Card Stock and Label Guide* for more details.

[i] Lexmark transparency numbers 12A5940 and 12A5941 are supported from the standard tray, optional 500-sheet trays and the multipurpose feeder.

[j] Lexmark transparency numbers 12A5150 and 12A5151 are supported from the multipurpose feeder only.

Output media types and weights

Media		Weight
Standard output bin and optional output expander		
Paper[b, f]	Xerographic or business paper	16 to 19.9 lb bond (60 to 74.9 g/m^2 grain long) 20 to 47 lb bond (75 to 176 g/m^2 grain long)
Specialty papers	Gloss book	60 to 120 lb book (88 to 176 g/m^2 grain long)
	Gloss cover	60 to 65 lb cover (162 to 176 g/m^2 grain long)
Card Stock - Upper limit (grain long)[a]	Index Bristol	90 lb (163 g/m^2)
	Tag	100 lb (163 g/m^2)
	Cover	65 lb (176 g/m^2)
Card stock – upper limit (grain short) [a]	Index Bristol	110 lb (199 g/m^2)
	Tag	125 lb (203 g/m^2)
	Cover	80 lb (216 g/m^2)
Transparencies [i,j]	Laser printer type	43 to 45 lb bond (161 to 169 g/m^2)
Labels - upper limit	Paper	48 lb bond (180 g/m^2)
	Dual-web paper[k]	48 lb bond (180 g/m^2)
	Polyester	59 lb bond (220 g/m^2)
	Vinyl[g, h, k]	92 lb liner (300 g/m^2)
Integrated forms	Pressure sensitive area [c]	Up to 47 lb bond (140 to 175 g/m^2)
	Paper base (grain long)	20 to 36 lb bond (75 to 135 g/m^2)
Envelopes [d, e]	Sulfite, wood-free or up to 100% cotton bond	16 to 28 lb bond (60 to 105 g/m^2)

Media		Weight
Finisher (Output bin, Offset Stack)		
Paper [b, f]	Xerographic or business paper	16 to 19.9 lb bond (60 to 74.9 g/m^2 grain long) 20 to 47 lb bond (75 to 176 g/m^2 grain long)
Specialty papers	Gloss book	60 to 120 lb book (88 to 176 g/m^2 grain long)
Finisher (Staple and Hole Punch)		
Paper	Xerographic or business paper	16 to 19.9 lb bond (60 to 74.9 g/m^2 grain long) 20 to 32 lb bond (75 to 120.4 g/m2 grain long)
Specialty papers	Gloss book	60 to 84.5 lb book (88 to 125 g/m^2 grain long)
5-Bin Mailbox		
Paper	Xerographic or business paper	16 to 19.9 lb bond (60 to 74.9 g/m^2 grain long) 20 to 24 lb bond (75 to 90 g/m^2 grain long)

[a] For 60 to 176 g/m^2 paper, grain long fibers are recommended. For papers heavier than 176 g/m^2, grain short is preferred.

[b] Paper less than 75 g/m^2 limited to less than 60% relative humidity and is not supported in duplex.

[c] Pressure-sensitive area must enter the printer first.

[d]100% cotton content maximum weight is 24 lb bond. 28 lb envelopes are limited to 25% cotton content.

[e] 28 lb bond envelopes are limited to 25% cotton content.

[f] The duplex option supports the same types and weights as the printer except 16 to 19.9 lb (60 to 74.9 g/m^2) grain long paper, transparencies, labels, envelopes or A5 card stock.

[g] Vinyl labels are supported only when printing environment and media are 20 to 23° C (68 to 90°F).

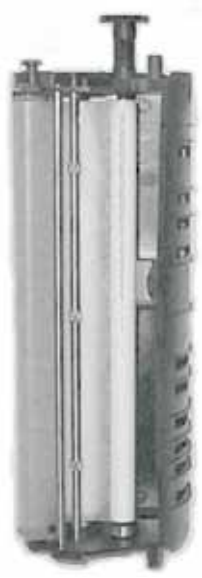
[h] Refer to the Converter Listing on Lexmark's Home Page and Automated FAX system (*LEXFAX*) for information on whether your vinyl label converter has passed Lexmark's criteria. Refer to the *Card Stock and Label Guide* for more details.

[i] Lexmark transparency numbers 12A5940 and 12A5941 are supported from the standard tray, optional 500-sheet trays and the multipurpose feeder.

[j] Lexmark transparency numbers 12A5150 and 12A5151 are supported from the multipurpose feeder only.

k The web oiler might be used for extensive use of vinyl or dual web labels. See **“Web oiler upgrade kit and replacements” on page 1-17**.

Web oiler upgrade kit and replacements



The web oiler removes fuser roll contamination in machines which run a large number of vinyl or dual web labels. The web oiler works with all media types and enables the prolonged use of labels without sacrificing fuser life.

- **Web oiler fuser life**: 200,000
- **Web oiler life**: 100,000 pages
- **Availability**: Order the web oiler upgrade kit.

Upgrade kit

This kit allows you to upgrade your current printer.

Description	Part number
115 V web oiler upgrade kit	56P1555
220 V web oiler upgrade kit	56P1556
100 V web oiler upgrade kit	56P1557
The installation of the web oiler upgrade kit converts a standard Lexmark C76x printer to an oil web capable printer. The web oiler upgrade kit includes an oiler fuser and web oiler.	

For replacements for the web oiler, see **“Web oiler fusers and web oiler replacements” on page 6-4**.

Acronyms

BLDC	Brushless DC Motor
BOR	Black Only Retract
C	Cyan
CSU	Customer Setup
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
EDO	Enhanced Data Out
EP	Electrophotographic Process
EPROM	Erasable Programmable Read-Only Memory
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
GB	Gigabyte
HCIT	High-Capacity Input Tray
HCOF	High-Capacity Output Finisher
HVPS	High Voltage Power Supply
ITU	Image Transfer Unit
K	Black
LASER	Light Amplification by Stimulated Emission of Radiation
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
LVPS	Low Voltage Power Supply
M	Magenta
MROM	Masked Read Only Memory
MS	Microswitch
NVRAM	Nonvolatile Random Access Memory
OEM	Original Equipment Manufacturer
OPT	Optical Sensor
PC	Photoconductor
pel	Picture element
POR	Power-On Reset
POST	Power-On Self Test
PSD	Position Sensing Device
PWM	Pulse Width Modulation
RIP	Raster Imaging Processor
ROM	Read Only Memory
SDRAM	Synchronous Dual Random Access Memory
SIMM	Single Inline Memory Module
SRAM	Static Random Access Memory
UPR	Used Parts Return
V ac	Volts alternating current
V dc	Volts direct current
VTB	Vacuum Transport Belt
Y	Yellow

2. Diagnostic information

Start

CAUTION: Unplug power cord from the printer or electrical outlet before you connect or disconnect any cable or electronic board or assembly for personal safety and to prevent damage to the printer. Disconnect any connections between the printer and PCs/peripherals. The printer weighs 47.7 kg (105 lb.) and requires at least two people to lift it safely. Make sure your fingers are not under the printer when you lift or set the printer down.

To determine the corrective action necessary to repair a printer, look for the following information:

- Does the POR stop? Check the **"POR (Power-On Reset) sequence" on page 2-2**
- Do you have a symptom, rather than an error message?
  - **"Symptom table - base printer" on page 2-3**
  - **"Symptom table - 500-sheet drawer option" on page 2-4**
  - **"Symptom table - HCIT 2000-sheet option" on page 2-4**
  - **"Symptom table - output expander option" on page 2-4**
  - **"Symptom table - 5-bin mailbox option" on page 2-5**
  - **"Symptom table - finisher (HCOF) option" on page 2-5**
- If you have an error message or user message, check the following:
  - **"Error code table" on page 2-6**
  - **"2xx Paper Jams" on page 2-15**
  - **"User attendance messages" on page 2-27**
  - **"Service checks" on page 2-41** for individual error messages
- Additional information can be found at the following locations:
  - **"Sub error code table" on page 2-18**
  - **"Understanding the printer operator panel" on page 2-21**
  - **"Service checks" on page 2-41**

Note: There may be printer error messages that are not contained in this service manual. Call your next level support for assistance.

POR (Power-On Reset) sequence

The following is an example of the events that occur during the POR sequence for the base machine with no paper handling options installed.

1. Power the machine on.
2. +5V LED (Power ON) on the system board comes on.
3. Operator Panel LED comes on solid.
4. All diamonds appear on the display.
5. While loading code, dots scroll across the display.
6. The following is an example of the screen that displays after the code is loaded.

128MB	600Mhz
128MB = Amount of Memory	600Mhz = Processor Speed

7. Performing Self Test is displayed.
8. Fuser drive motor turns on.
9. Fuser fan turns on.
10. RIP fan turns on.
11. Heartbeat LED on system boards turns on.
12. Fuser lamps turn on.
13. Vacuum transport belt fan turns on.
14. ITU Missing is posted if the ITU is missing.
15. Fuser Missing is posted if the fuser is missing.
16. Close Door is posted if the front cover is open.
17. Busy is displayed.
18. Operator panel LED blinks.
19. Redrive exit roller turns.
20. Any cartridge errors are posted such as a defective cartridge, Return Program information, or missing cartridge.
21. Any applicable maintenance messages display such as 80 Fuser Maintenance or 83 ITU Maintenance.
22. One of the toner low messages appears when applicable: 88 Yellow Toner Low, 88 Magenta Toner Low, 88 Cyan Toner Low, or 88 Black Toner Low.
23. Color calibration may be initiated. This is displayed if one of the following occurs:
    - The printer detects at power on, or the front cover is closed, that a new or different toner cartridge has been installed.
    - The printer detects at power on when the cover is closed that a new or different ITU has been installed.
    - The printer detects at power on that the fuser temperature is below 60° C.
    - When coming out of power saver if power saver has been active for eight hours or longer.
    - If the printer is turned on when a calibration cycle was in progress since the printer was last powered off.
24. Ready is displayed.

Symptom tables

Symptom table - base printer

Symptom	Action
Fuser fan fails to run or is noisy	Go to **"925 error code" on page 2-85**.
RIP fan fails to run or is noisy	Go to **"927 error code" on page 2-86**.
VTB fan fails to run or is noisy	Go to **"926 error code" on page 2-85**.
Excessive fuser drive motor assembly noise	Go to **"Excessive fuser drive motor assembly noise" on page 2-124**.
Machine inoperative: Fans don't turn, engine not on, lights not on, and none of the printer functions work.	Go to **"AC and DC power service check" on page 2-105.**
Close Door displays constantly, unable to clear the message, POR incomplete	Go to **"Close door/HVPS/printhead interlock switch service check" on page 2-110**.
Operator panel: One or more buttons do not work	Go to **"Operator panel LCD/status LED/buttons service check" on page 2-125**.
Operator panel: Display is blank, printer does not sound 5 *beeps,* but printer is not inoperative	Replace the **"Operator panel" on page 4-53**.
Operator Panel: Operator panel displays all diamonds continuously, sounds 5 beeps, and POST inoperative	Go to **"Operator panel LCD/status LED/buttons service check" on page 2-125**.
Operator panel: One pel or random pels are missing	Replace the **"Operator panel" on page 4-53**.
Paper feed problems, base printer	Go to **"2xx Paper Jams" on page 2-15**.
Paper feed problems, integrated tray	Go to **"Tray 1 service check" on page 2-142**.
Printer prints black only, no colors	Make sure that the printer is not set up to print black only. If the printer is set up correctly, check the Black Retract Motor and gears for correct operation. If the gears are operating correctly, replace the Retract Motor Assembly. If this does not correct the problem, go to **"Black only retract (BOR) service check" on page 2-109**.
Print quality: 100% single color printed • All black print • All cyan print • All magenta print • All yellow print	Go to **"Entire page is mostly one color—Full bleed planes in one color" on page 2-131**.
Print quality: Blank page (no image)	Go to **"Blank page (no image)" on page 2-130**.
Print quality: Evenly spaced horizontal marks or lines on the printed page	Go to **"Vertical lines or streaks" on page 2-134**.
Print quality: Black line	Black horizontal lines are most likely caused by a shorted charge roll in the print cartridge. Replace the black print cartridge.
Print quality: Magenta, cyan, or yellow lines.	**"Vertical lines or streaks" on page 2-134** or **"Horizontal lines or streaks" on page 2-134**.
Print quality: Colored lines, streaks, or smudges	Go to **"Vertical lines or streaks" on page 2-134** or **"Horizontal lines or streaks" on page 2-134**.
Print quality: Light lines or streaks appear on the printed page	Go to **"Light lines or streaks appear on the page" on page 2-139**.
Print quality: Light print	Go to **"Light print over the entire page" on page 2-133**.
Print quality: Missing colors	Go to **"Missing colors—Complete or partially missing color planes" on page 2-132**.
Print quality: Uneven printing	Go to **"Uneven printing" on page 2-137**.

Symptom	Action
Print quality: Poor color alignment	Go to **"Poor color alignment" on page 2-136**.
Print quality: Toner on the back of the page	Go to **"Toner is on the back of the printed page" on page 2-139**.
Print quality: Toner smears or rubs off the page	Go to **"Toner smears or rubs off the page with no error code displayed" on page 2-138**.
Print quality: Multiple horizontal lines	Go to **"Vertical lines or streaks" on page 2-134**

Symptom table - 500-sheet drawer option

Symptom	Action
Printer fails to recognize the option is installed	Go to **"The base printer does not recognize that tray x is installed." on page 2-102**.
The tray *x* autocompensator fails to retract, stays in down position	Go to **"Tray x autocompensator fails to retract, stays in down position." on page 2-103**.
Paper Low message appears when adequate paper is installed (tray *x*)	Go to **"The printer detects paper low in tray x when adequate paper is installed in the tray." on page 2-103**.
Paper Out message appears when adequate paper is installed (tray *x*)	Go to **"The printer detects paper out in tray x when adequate paper is installed in the tray." on page 2-104**.
Tray *x* does not detect size media is installed	Go to **"Tray x does not detect size media installed" on page 2-104**.
Paper jams in the option tray	Go to **"2xx Paper Jams" on page 2-15**.

Symptom table - HCIT 2000-sheet option

Symptom	Action
Printer fails to recognize the option is installed	Go to **"Printer does not recognize that the HCIT 2000-sheet option is installed." on page 2-122**.
HCIT does not function. There is no response. The HCIT is inoperative.	Go to **"HCIT inoperative" on page 2-123**.
HCIT does not recognize the correct paper size	Go to **"HCIT 2000-sheet option does not recognize the size paper selected." on page 2-124**.
Paper jams in the HCIT	Go to **"2xx Paper Jams" on page 2-15**.

Symptom table - output expander option

Symptom	Action
Printer fails to recognize the option is installed. The paper feeds into the standard bin.	Go to **"Output expander option service check" on page 2-127**.
Remove Paper - Output Bin *x* is displayed and cannot be cleared	Go to **"Remove Paper - Output Bin x is displayed, POST is incomplete unable to clear the message." on page 2-128**
Printer does not display Output Bin Full	Go to **"No indication that bin x is full or no indication that bin x is near full." on page 2-129**.
Excessive static electricity buildup	Go to **"Problems with excessive static electricity buildup." on page 2-129**.

Symptom table - 5-bin mailbox option

Symptom	Action
Printer fails to recognize the option is installed. Paper feeds into the standard bin.	Go to **"The printer does not recognize one or more output options as installed." on page 2-99**.
Ready Bin *x* Full displays and won't clear	Go to **"Ready bin x full message - may be able to clear message and will feed paper into bin selected." on page 2-100**
Bin *x* is full but no message displays that Bin x is full	**"Bin x full - no message that bin x is full message" on page 2-100**
271 Paper Jam appears, paper does not feed into the bin selected.	Go to **"Paper does not feed into the bin selected. 271 Paper Jam - check bin 1 message" on page 2-101**

Symptom table - finisher (HCOF) option

Symptom	Action
Check Finisher displayed, unable to clear message	Go to **"Check Finisher displayed, unable to clear message" on page 2-117**
Finisher is inoperative	Go to **"Finisher is inoperative, or not recognized" on page 2-118**
Front door is open and no error message appears	Go to **"Front door is open, no indication on display" on page 2-119**
Inoperative fan	Go to **"Fan in finisher inoperative" on page 2-119**
Full chad box, no message appears	Go to **"No indication that the chad box is full, no message" on page 2-120**
Chad Box Full message appears when box is not full	Go to **"Chad Box Full message when chad box is not full" on page 2-120**
Paper jams in the finisher (HCOF) option	Go to **"2xx Paper Jams" on page 2-15**.

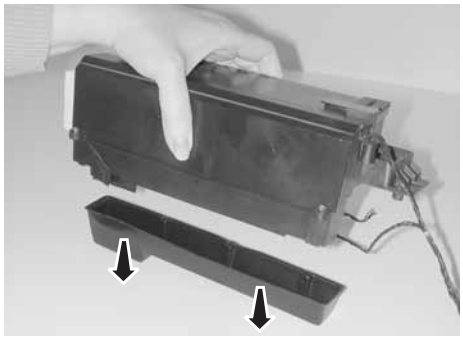
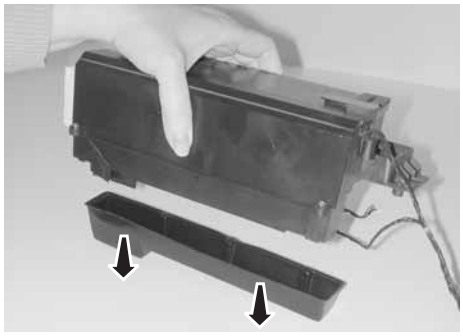
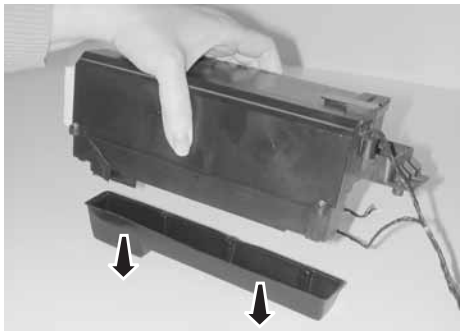
Error code table

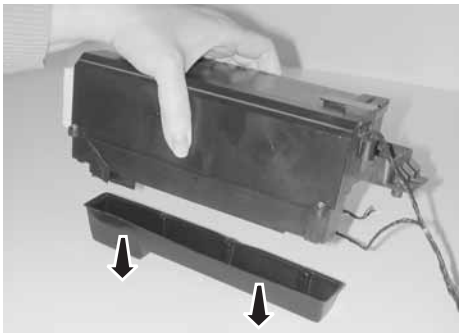
Error code	Action
9xx service errors	
900 RIP Software Error	Go to **“900 RIP Software Error” on page 2-83**.
902 Service Engine Error 0	General Engine Software Errors 902 through 907 indicate an unrecoverable engine software error. The system board may cause this type of error. Turn the printer off and on to try and clear the error code. If this does not fix the problem after several attempts, call your next level support before replacing the system board.
904 Engine Software	Interface violation by RIP - Check all cabling and connections to the system board. If no problem is found, replace the system board. See **“System board” on page 4-72**.
906 Engine RAM Error	Engine RAM Error - Replace the system board. See **“System board” on page 4-72**.
907 Engine Flash Error	Engine Flash Error - The system board might be causing the error code. Try the following: Reflash the system board with the correct level code. If this does not fix the problem, replace the system board. See **“System board” on page 4-72**.
920 Color Calibrate	Unrecoverable TPS Gain Error - Replace the ITU assembly. See **“ITU assembly” on page 4-44**.
921 Color Calibrate	Unrecoverable TPS Error - Replace the ITU assembly. See **“ITU assembly” on page 4-44**.
922 Color Calibrate	Unrecoverable TPS Invalid Belt - Replace the ITU assembly. See **“ITU assembly” on page 4-44**.
925 Fan Stalled	Fuser fan - Go to **“925 error code” on page 2-85**.
926 Fan Stalled	VTB fan - Go to **“926 error code” on page 2-85**.
927 Fan Stalled	RIP Fan - Go to **“927 error code” on page 2-86**.
930 LV Power Supply	Unable to find zero crossover point - Replace the LVPS. See **“LVPS assembly” on page 4-46**.
931 LV Power Supply	Invalid AC Frequency - The AC power line frequency may be incorrect. Go to **“AC power service check” on page 2-105**.
939 RIP Engine Comm	The RIP processor cannot communicate with the engine processor. Replace the system board. See **“System board” on page 4-72**.
940 TMC Error - Cyan	Cyan TMC switch failure - Go to **“940 error code” on page 2-87**.
941 TMC Error - Magenta	Magenta TMC switch failure - Go to **“941 error code” on page 2-89**.
942 TMC Error - Yellow	Yellow TMC switch failure - Go to **“942 error code” on page 2-91**.
943 TMC Error - Black	Black TMC switch failure - Go to **“943 error code” on page 2-93**.
953 NVRAM Failure	NVRAM Chip Failure system board - Replace the paper size sensing board. See **“Paper size sensing board” on page 4-57**.
954 NVRAM Failure	NVRAM CRC failure - Replace the paper size sensing board. See **“Paper size sensing board” on page 4-57**.

Error code	Action
955 Code CRC <*loc*>	System board - This error indicates that the Code ROM or NAND failed the CRC check. The location of the failure is indicated by <*loc*>. Replace the system board. See **“System board” on page 4-72**.
956 Service <*xxxx*> System Board	A four digit code displays <*xxxx*>. Go to **“956 service error” on page 2-95**.
957 System Board ASIC Failure	Replace the system board. See **“System board” on page 4-72**.
958 NAND Failure	Replace the system board. See **“System board” on page 4-72**.
960 RAM Memory Error	RAM soldered on board is bad. Replace the system board. See **“System board” on page 4-72**.
961 RAM Memory Error	There is an error in the memory installed in the memory option slot on the system board. If another memory option is available, switch the memory options to isolate the problem. If you do not have a spare memory option to switch, then replace the memory installed. If this does not fix the problem, replace the **“System board” on page 4-72**.
964 Emulation Error	Download emulation CRC failure has occurred. The following actions may be taken: 1. Disable the Download Emulation 2. Program the download emulation into the code overlay SIMM, again. 3. If the problem is not resolved, replace the code overlay SIMM and download emulation, again.
975 Standard Network or Network Card *x*	Unrecognizable network Errors 975 through 979 indicate a failure with the standard network port located on the system board or a network card in the specified slot *x*, *x*=1, 2 or 3. Replace the card in the specified slot.
976 Standard Network	Unrecoverable software or error in network for network card *x*. If unable to clear the error message, check the following: • If installed, check network card for correct installation. • If correctly installed, replace the network card. • If a network card is not installed, replace the system board.
978 Standard Network or Network Card *x*	Bad checksum while programming network Network Card *x* port.
979 Standard Network or Network Card X	Flash parts failed while programming Network Card *x* port.
980 <*device*> comm	Engine is experiencing unreliable communications to the specified device. Errors 980 through 984 indicate the specified device has detected a Paper Port communication failure.
981 <*device*> comm	Engine protocol violation detected by the specified device. • Engine • Duplex Option • Tray *x* (where *x*=1,2,3,4, or 5)
982 <*device*> comm	Communications error detected by the specified device. Output Bin (where *x*=1,2,3,or 6) **Note**: This message is used for single bin output devices. Bins *x* to *y* (where *x* to *y*= 1 to 5, 2 to 6, or 6 to 10)

Error code	Action
983 <*device*> comm	Invalid command received by the specified device. **Note**: This message is used for multiple bin output devices. **Note**: Check the autoconnects above and below the failing option to make sure they are seated and connected correctly. Go to service check for the device indicated.
984 <*device*> comm	Invalid command parameter received by the specified device.
990 <*device*>	This error message indicates that an equipment check condition has occurred in the specified device, but the device is unable to identify the exact component failure. Go to **"For 990 Service Error - Tray x, x=Tray 2, 3, 4 or 5, this is the tray that has a problem or needs service." on page 2-96**. **Note**: <*device*> can be one of the following: • Duplex option • Tray *x* (where *x*=1,2,3,4, or 5) • Output bin *x* (where *x*=1,2,3, or 6) **Note:** This message is used for single bin output devices. Output bin *x* to y (where *x*=1 to 5, 2 to 6, or 6 to 20) **Note:** This message is used for multiple bin output devices. Go to the service check for the device indicated.
991 <*device*> System Card Failure	This error message indicates that a device has detected an equipment check in its system board. **Note**: <*device*> can be one of the following; • Duplex option • Tray *x* (where *x*=1,2,3,4 or 5) • Output bin *x* (where *x*=1,2,3, or 6) **Note:** This message is used for single bin output devices. • Output bin *x* to *y* (where *x*=1 to 5, 2 to 6, or 6 to 20) **Note:** This message is used for multiple bin output devices. Go to the service check for the device indicated.
1xx service errors	
100 ITU Error	ITU stall - Go to **"100 ITU Error" on page 2-41**.
101 ITU Error	Invalid ITU memory - Replace **"ITU assembly" on page 4-44**.
102 ITU Error	ITU shorted thermistor - Replace **"ITU assembly" on page 4-44**.
103 ITU Error	Memory load error - Replace **"ITU assembly" on page 4-44**.
104 ITU Error	ITU belt tracking - Go to **"104 ITU Error" on page 2-44**.
106 Printhead Error	Cyan printhead lost Hsync Check for the correct installation of all the cables to the system board assembly and to the printhead assembly; J8, and J9 on the system board. Go to **"System board" on page 5-8**. If the cables are connected correctly to the system board and to the printhead assembly, go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.

Error code	Action
107 Printhead Error	Magenta printhead lost Hsync Check for the correct installation of all the cables to the system board assembly and to the printhead assembly; J11 and J12 on the system board. Go to **"System board" on page 5-8**. If the cables are connected correctly to the system board and to the printhead assembly, go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
108 Printhead Error	Yellow printhead lost Hsync Check for the correct installation of all the cables to the system board assembly and to the printhead assembly; J7 and J8 on the system board. Go to **"System board" on page 5-8**. If the cables are connected correctly to the system board and to the printhead assembly, go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
109 Printhead Error	Black printhead lost Hsync Check for the correct installation of all the cables to the system board assembly and to the printhead assembly; J12 and J13 on the system board. Go to **"System board" on page 5-8**. If the cables are connected correctly to the system board and to the printhead assembly, go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
110 Printhead Error	No first Hysnc - cyan Check for the correct installation of all the cables to the system board assembly and to the printhead assembly; J8 and J9 on the system board. Go to **"System board" on page 5-8**. If the cables are connected correctly to the system board and to the printhead assembly, go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
111 Printhead Error	No first Hysnc - magenta Check for the correct installation of all the cables to the system board assembly and to the printhead assembly; J11 and J12 on the system board. Go to **"System board" on page 5-8**. If the cables are connected correctly to the system board and to the printhead assembly, go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
112 Printhead Error	No first Hysnc - yellow Check for the correct installation of all the cables to the system board assembly and to the printhead assembly; J7 and J8 on the system board. Go to **"System board" on page 5-8**. If the cables are connected correctly to the system board and to the printhead assembly, go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.

Error code	Action
113 Printhead Error	No first Hysnc - black Check for the correct installation of all the cables to the system board and in the printhead assembly; J12 and J13 on the system board. Go to **"System board" on page 5-8**. If the cables are connected correctly, go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
114 Printhead Error	A black printhead servo error has been detected. Verify all packing material have been removed from the printer and the printhead.  If error persists, see **"Printhead diagnostics" on page 3-1**.
115 Printhead Error	A cyan printhead servo error has been detected. Verify all packing material have been removed from the printer and the printhead.  If error persists, see **"Printhead diagnostics" on page 3-1**.
116 Printhead Error	A magenta printhead servo error has been detected. Verify all packing material have been removed from the printer and the printhead.  If error persists, see **"Printhead diagnostics" on page 3-1**.

Error code	Action
117 Printhead Error	A yellow printhead servo error has been detected. Verify all packing material have been removed from the printer and the printhead.  If error persists, see **“Printhead diagnostics” on page 3-1**.
120 Fuser Error	Wrong fuser lamp - hot roll - replace the fuser assembly. See **“Fuser assembly” on page 4-35**.
121 Fuser Error	Wrong fuser lamp - BUR - replace the fuser assembly. See **“Fuser assembly” on page 4-35**.
122 Fuser Error	Fuser below temperature when printing - hot roll - go to **“122 error code” on page 2-46**.
123 Fuser Error	Fuser below temperature when printing - BUR - go to **“123 error code” on page 2-46**.
124 Fuser Error	Fuser over temperature - hot roll - go to **“124 error code” on page 2-47**.
125 Fuser Error	Fuser over temperature - BUR - go to **“125 error code” on page 2-47**.
126 Fuser Error	Fuser open thermistor hot roll - go to **“126 error code” on page 2-48**.
127 Fuser Error	Fuser open thermistor BUR - go to **“127 error code” on page 2-48**.
128 Fuser Error	Fuser under temperature in standby - hot roll - go to **“128 error code” on page 2-49**.
129 Fuser Error	Fuser under temperature in standby - BUR - go to **“129 error code” on page 2-49**.
130 Fuser Error	Fuser failed to reach standby temperature - hot roll - go to **“130 error code” on page 2-50**.
131 Fuser Error	Fuser failed to reach standby temperature -BUR - go to **“131 error code” on page 2-51**.
132 Fuser Error	Fuser cold hot roll - go to **“132 error code” on page 2-52**.
133 Fuser Error	Fuser cold roll - BUR - go to **“133 error code” on page 2-53**.
134 Fuser Error	Fuser lamp on too long hot roll - go to **“134 error code” on page 2-54**.
135 Fuser Error	Fuser lamp on too long BUR - go to **“135 error code” on page 2-54**.
136 Fuser Error	Fuser cam position not found - go to **“136 error code” on page 2-54**.
140 Motor	DC motor accel stall - registration (staging)- replace the **“Registration motor” on page 4-69**. If this does not fix the problem, replace the **“System board” on page 4-72**.

Error code	Action
141 Motor	DC pick motor excessive PWM - registration (staging) motor - replace the **“Registration motor” on page 4-69**. If this does not fix the problem, replace the **“System board” on page 4-72**.
142 Motor	DC pick motor, over speed - registration (staging) motor - replace the **“Registration motor” on page 4-69**. If this does not fix the problem, replace the **“System board” on page 4-72**.
143 Motor	DC pick motor, no encoder feedback - registration (staging) motor - replace the **“Registration motor” on page 4-69**. If this does not fix the problem, replace the **“System board” on page 4-72**.
144 Motor	DC motor accel stall - autocompensator motor - replace the **“Autocompensator pick assembly” on page 4-20**. If this does not fix the problem, replace the **“System board” on page 4-72**.
145 Motor	DC motor excessive PWM autocompensator motor - replace the **“Autocompensator pick assembly” on page 4-20**. If this does not fix the problem, replace the **“System board” on page 4-72**.
146 Motor	Autocompensator motor over speed, autocompensator motor - replace the **“Autocompensator pick assembly” on page 4-20** If this does not fix the problem, replace the **“System board” on page 4-72**.
147 Motor	There is no autocompensator DC motor feedback. Replace the **“Autocompensator pick assembly” on page 4-20**. If this does not fix the problem, replace the **“System board” on page 4-72**.
148 Motor	ITU belt motor, unable to lock - go to **“148 error code” on page 2-56**.
150 Motor	Black cartridge motor unable to lock - go to **“150 error code” on page 2-57**.
151 Motor	Magenta cartridge motor unable to lock - go to **“151 error code” on page 2-58**.
152 Motor	Cyan cartridge motor unable to lock - go to **“152 error code” on page 2-58**.
153 Motor	Yellow Cartridge motor unable to lock - go to **“153 error code” on page 2-59**.
154 Motor	ITU belt motor - lost lock - go to **“154 error code” on page 2-60**.
156 Motor	Black cartridge motor lost lock - go to **“156 error code” on page 2-61**.
157 Motor	Magenta cartridge motor lost lock - go to **“157 error code” on page 2-62**.
158 Motor	Cyan cartridge motor lost lock - go to **“158 error code” on page 2-62**.
159 Motor	Yellow cartridge motor lost lock - go to **“159 error code” on page 2-63**.
160 Motor	ITU belt BLDC motor mfg. unknown - go to **“160 error code” on page 2-63**.
162 Motor	Black cartridge BLDC motor mfg. unknown - go to **“162 error code” on page 2-64**.
163 Motor	Magenta cartridge BLDC motor mfg. unknown - go to **“163 error code” on page 2-64**.

Error code	Action
164 Motor	Cyan cartridge BLDC motor mfg. unknown - go to **"164 error code" on page 2-64**.
165 Motor	Yellow cartridge BLDC motor mfg. unknown - go to **"165 error code" on page 2-65**.
167 Motor	The incorrect configuration ID. See **"Web oiler fuser kit installation" on page 4-80** to set configuration ID.
168 Motor	Unknown manufacture type - perform **"Motor Detect" on page 3-17**. If you do not find the problem after performing the test, call your next level support.
169 Motor	Mirror motor lock not achieved - black - go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
170 Motor	Mirror motor lost lock - black - go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
171 Motor	Mirror motor lock not achieved - cyan - go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
172 Motor	Mirror motor lost lock - cyan - go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
173 Motor	Mirror motor lock not achieved - magenta - go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
174 Motor	Mirror motor lost lock - magenta - go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
175 Motor	Mirror motor lock not achieved - yellow - go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
176 Motor	Mirror motor lost lock - yellow - go to **"Printhead diagnostics" on page 3-1**. **Note:** Do not adjust or replace any printhead before performing checks in **"Printhead diagnostics" on page 3-1**.
196 Service Thermal System	The printer has detected an error in the printhead thermal drift compensation system. Perform the **"Drift Sensors" on page 3-16**.
199 Service Reflash RIP	The printer has detected an invalid version of the RIP code and must be reflashed to the approved version. Contact your next level support.

Programming errors - P101 through P116

These error codes may be displayed whenever a new code upgrade has been attempted. It is possible that the wrong type of code, network versus non-network, or a corrupted file was probably sent to the printer. Verify that the correct type of code is being flashed to the printer.

The following displays whenever a programming error occurs while programming the RIP code.

Programming Error P*xxx*

Error code	**Description**
P101 P104	Bad file type - The proper signature was not found in the file.
P102	Device size error - The flash file was too large to fit on the flash device.
P103	Copyright too large - The copyright message was too large to fit into one block.
P104	Not used
P105	Invalid package - A network file was used to program a non-network printer, or a non-network file was used to program a network printer.
P106	Not used (invalid chip select)
P107	Not used (invalid Block Table (IBT) is not valid)
P108	Invalid socket - The socket ID requested for programming is not valid.
P109	Package size error - An update file was used to program the printer, but the package did not fit within the space allocated in the Master Boot Record.
P110	Too many bad blocks - The Invalid Block Table is too large to fit in the allocated space.
P111	Boot Loader too large - The Boot Loader (zloader) is too large to fit into block 0.
P112	Invalid DLE - An upddle.fls file was used to update the DLE code on printer with a firmware card installed, but the DLE was not found on the firmware card.
P113	Not used (no partition specified)
P114	Bad secure header - The secure header for the DLE was invalid.
P115	Invalid package - A non-DLE “full” file was sent to a flash that already had a DLE partition. (You must use erasele.fls to wipe out the DLE partition first).
P116	User Flash partition in use - An attempt was made to program code over a user flash part.

2xx Paper Jams

User primary message	User secondary message	Explanation
200 Paper Jam Clear Paper Path	Leave sheets in Finisher area 5	Primary: This message indicates that a paper jam has occurred at or near the printer Input Sensor. Open the printers left door (Paper Jam Removal Door) to access the jammed media. Secondary: If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages indicating the accumulated sheets should not be removed during jam clearing. **Note**: When the secondary message is displayed, if the accumulated sheets are removed the printer will not reprint these sheets. Also if the print job is completed, the portion of the job printed after the jam will not be stapled. If removing the jammed media does not fix the problem, go to **“200 Paper Jam—Options and multipurpose feeder” on page 2-68** or **“200 Paper Jam—Tray 1” on page 2-66**.
201 Paper Jam Clear Paper Path	Leave sheets in Finisher area 5	Primary: Media has jammed at or before the fuser sensor. Open the printer lower right or center door to access the jammed media. Secondary: If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages indicating the accumulated sheets should not be removed during jam clearing. **Note**: When the secondary message is displayed, if the accumulated sheets are removed the printer will not reprint these sheets. Also if the print job is completed, the portion of the job printed after the jam will not be stapled. If removing the jammed media does not fix the problem, go to **“201 Paper Jam” on page 2-70**.
202 Paper Jam Clear Paper Path	Leave sheets in Finisher area 5	Primary: Media has jammed at the fuser. Open the printer right door to access the jam area. Secondary: If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages indicating the accumulated sheets should not be removed during jam clearing. **Note**: When the secondary message is displayed, if the accumulated sheets are removed the printer will not reprint these sheets. Also if the print job is completed, the portion of the job printed after the jam will not be stapled. If removing the jammed media does not fix the problem, go to**“202 Paper Jam” on page 2-71**.

User primary message	User secondary message	Explanation
230 Paper Jam Clear Paper Path	Leave Job in Finisher area 5	Primary: Paper has most likely jammed in the duplex option. Remove the duplex tray to access the jam. Secondary: If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages indicating the accumulated sheets should not be removed during jam clearing. **Note**: When the secondary message is displayed, if the accumulated sheets are removed the printer will not reprint these sheets. Also if the print job is completed, the portion of the job printed after the jam will not be stapled. If removing the jammed media does not fix the problem, go to **"230 Paper Jam" on page 2-73**.
24*x* Paper Jam Clear Paper Path	Leave Job in Finisher area 5	Primary: This paper jam message can apply to both the 500-sheet Option Tray, envelope option, special media option, and HCIT option. Tray *x* (*x*=2 through 4). Open the option side access door and then the tray. Secondary: If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages indicating the accumulated sheets should not be removed during jam clearing. **Note**: When the secondary message is displayed, if the accumulated sheets are removed the printer will not reprint these sheets. Also if the print job is completed, the portion of the job printed after the jam will not be stapled. If removing the jammed media does not fix the problem, go to **"24x Paper jam" on page 2-74**.
250 Paper Jam Clear Paper Path	Leave Job in Finisher area 5	Primary: Paper is jammed in the MPF. Secondary: If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages indicating the accumulated sheets should not be removed during jam clearing. **Note**: When the secondary message is displayed, if the accumulated sheets are removed the printer will not reprint these sheets. Also if the print job is completed, the portion of the job printed after the jam will not be stapled. If removing the jammed media does not fix the problem, go to **"250 Paper Jam" on page 2-78**.
271 Paper Jam Clear Paper Path	Leave Job in Finisher area 5	Primary: Paper has jammed at Output Bin 1. Open the door of Bin 1 to access the jammed media. Secondary: If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages indicating the accumulated sheets should not be removed during jam clearing. **Note**: When the secondary message is displayed, if the accumulated sheets are removed the printer will not reprint these sheets. Also if the print job is completed, the portion of the job printed after the jam will not be stapled. If removing the jammed media does not fix the problem, go to **"271 Paper Jam - check bin 1" on page 2-80**.

User primary message	User secondary message	Explanation
272 Paper Jam Clear Paper Path	Leave Job in Finisher area 5	Primary: Media is jammed in the 5-Bin Mailbox Option. Open the rear door of option to access the jammed media. Secondary: If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages indicating the accumulated sheets should not be removed during jam clearing. **Note**: When the secondary message is displayed, if the accumulated sheets are removed the printer will not reprint these sheets. Also if the print job is completed, the portion of the job printed after the jam will not be stapled. If removing the jammed media does not fix the problem, go to **"272 Paper Jam - check bin x" on page 2-81**.
280 Paper Jam Clear Paper Path	Leave sheets in Finisher area 5	Primary: Media has jammed in the Finisher Option. Open the finisher option front door to access the jammed pages. Secondary: If sheets have been accumulated to be stapled when the jam is detected, the printer alternately flashes the primary and secondary messages indicating the accumulated sheets should not be removed during jam clearing. **Note**: When the secondary message is displayed, if the accumulated sheets are removed the printer will not reprint these sheets. Also if the print job is completed, the portion of the job printed after the jam will not be stapled. If removing the jammed media does not fix the problem, go to **"280 Paper Jam" on page 2-82**.
282 Staple Jam Check Stapler	Remove Job from Finisher	The stapler device detects a paper jam during normal stapler operation such as when printing and stapling jobs. Check stapler are for jam in accumulator or stapler. Remove stapler cartridge to check for staple jam. **Note**: After the error has been cleared, the printer does not reprint any pages which existed in the accumulator for stapling. The following actions can be taken while either the primary or secondary messages are displayed: Press **Go** to initiate priming and resume printing.

Sub error code table

Use this table to troubleshoot the printer when 9*xx* and 2*xx* Error Codes are displayed.

When a 9*xx* or 2*xx* error code is displayed, press and hold **Return** and press **Select** to view the Sub error code.

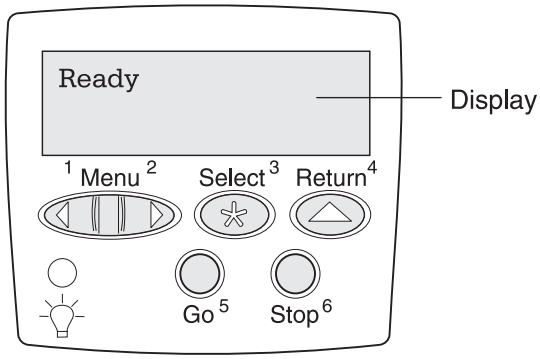
Sub error code	Explanation
2D 00	No media available in duplex option.
2D 01	Leading edge of image position has reached image halt location.
2D 02	Paper jam detected. Sensor S2 was activated at an unexpected time.
2D 03	Paper jam detected. Sensor S2 was not activated within the timeout period.
2D 04	Paper jam detected. Sensor S2 did not deactivate during the timeout period.
2D 05	Paper jam detected. Sensor NM was activated at an unexpected time.
2D 06	Paper jam detected. Sensor NM did not deactivate during the timeout period.
2D 07	Paper jam detected. The fuser exit sensor was activated at an unexpected time.
2D 08	Paper jam detected. The fuser exit sensor did not deactivate by the previous page or the current page did not activate the fuser exit sensor within the timeout period.
2D 09	Paper jam detected. The fuser exit sensor did not deactivate during the timeout period.
2D 0A	Paper jam detected. A paper jam detected in the Duplex Option.
2D 0B	Paper jam detected. A paper jam detected in Tray 2.
2D 0C	Paper jam detected. A paper jam detected in Tray 3.
2D 0D	Paper jam detected. A paper jam detected in Tray 4.
2D 0E	S2 sensor was not made within timeout period (source is MPF).
2D 0F	S2 sensor was made too early.
2D 10	S2 sensor was made too early (source is MPF).
2D 11	Media versus registration error is out of acceptable bounds.
2D 12	Media versus registration error is out of acceptable bounds (source is MPF).
2D 13	Prism sensor detected incorrect media (source is MPF).
2D 14	Prism sensor detected different media from the tray sensor.
2D 15	Paper jam detected. A paper jam detected in Stacker 1.
2D 16	Paper jam detected. A paper jam detected in Stacker 2.
2D 17	Paper jam detected. A paper jam detected in Stacker 3.
2D 18	Paper jam detected. A paper jam detected in Stacker 4.
2D 19	Paper jam detected. A paper jam detected in Stacker 5.
2D 1A	Paper jam detected. A paper jam detected in Stacker 6.
2D 1B	Sensor (S2) has been activated or obstructed.
2D 1C	Fuser narrow media sensor obstructed.

Sub error code	Explanation
2D 1D	Fuser exit sensor obstructed.
2D 1E	Duplex sensor(s) obstructed.
2D 1F	Tray 2 sensor obstructed.
2D 20	Tray 3 sensor obstructed.
2D 21	Tray 4 sensor obstructed.
2D 22	Pass thru sensor in Stacker 1 obstructed.
2D 23	Pass thru sensor in Stacker 2 obstructed.
2D 24	Pass thru sensor in Stacker 3 obstructed.
2D 25	Pass thru sensor in Stacker 4 obstructed.
2D 26	Pass thru sensor in Stacker 5 obstructed.
2D 27	Pass thru sensor in Stacker 6 obstructed.
2D 28	Paper jam detected. A paper jam detected in the Duplex option.
2D 29	Paper jam detected. A paper jam detected in Tray 2.
2D 2A	Paper jam detected. A paper jam detected in Tray 3.
2D 2B	Paper jam detected. A paper jam detected in Tray 4.
2D 2C	Duplex input motor error detected, the engine detected a stall condition.
2D 2D	Duplex input motor error detected, the engine detected a PWM error.
2D 2E	Duplex input motor error detected, the engine detected a motor encoder error.
2D 2F	Duplex reversing motor error detected, the engine detected a stall condition.
2D 30	Duplex reversing motor error detected, the engine has detected a PWM error condition.
2D 31	Duplex reversing motor error detected, the engine detected a motor encoder error.
2D 32	Tray 2 pick motor stall error detected.
2D 33	Tray 2 pick motor PWM error detected.
2D 34	Tray 2 pick motor encoder error detected.
2D 35	Tray 2 feed motor stall error detected.
2D 36	Tray 2 feed motor PWM error detected.
2D 37	Tray 2 feed motor Encoder error detected.
2D 38	Tray 3 pick motor stall error detected.
2D 39	Tray 3 pick motor PWM error detected.
2D 3A	Tray 3 pick motor Encoder error detected.
2D 3B	Tray 4 feed motor stall error detected.
2D 3C	Tray 4 feed motor PWM error detected.
2D 3D	Tray 4 feed motor Encoder error detected.

Sub error code	Explanation
2D 3E	Tray 4 pick motor stall error detected.
2D 3F	Tray 4 pick motor PWM error detected.
2D 40	Tray 4 pick motor Encoder error detected.
2D 41	Tray 4 feed motor stall error detected.
2D 42	Tray 4 feed motor PWM error detected.
2D 43	Tray 4 feed motor encoder error detected.
2D 44	Registration (staging) Motor stall error detected when picking media from the MPF.
2D 45	Autocompensator motor stall error detected when picking media from the MPF.
2D 46	Autocompensator motor stall error detected when picking media from Tray 1.
2D 47	Registration (staging) motor PWM error detected.
2D 48	Autocompensator motor PWM error detected when picking media from the MPF.
2D 49	Autocompensator motor PWM error detected when picking media from Tray 1.
2D 4A	Registration (staging) motor encoder error detected.
2D 4B	Autocompensator motor encoder error detected when picking media from the MPF.
2D 4C	Autocompensator motor encoder error detected when picking media from Tray 1.
2D 4E	Output expander sensor was not activated by the media.
2D 4F	Topmost output option sensor obstructed.
2D 50	5-Bin mailbox pass thru sensor was not deactivated by the previous page or not activated by the current page.
2D 51	5-Bin mailbox pass thru sensor was not activated by the media.
2D 52	5-Bin mailbox sensor was not deactivated by the previous page or not activated by the current page.
2D 53	5-Bin mailbox sensor was not activated by the media.
2D 54	Expander did not declare page complete.
2D 55	5-Bin mailbox did not declare page complete.
2D 56	5-Bin mailbox S1 broke early.
2D 57	5-Bin mailbox S2 broke early.
2D 58	Output expander sensor broke early.
2D 59	Detected early break of fuser exit sensor.
2D 5A	Finisher detected staple jam.

Understanding the printer operator panel

The operator panel has five buttons, a display, and a light that flashes when the printer is processing a job indicated by the **Busy** message.



Operator panel buttons

Button	Function
Go	Press **Go** to: • Return to the Ready state if the printer is offline (the **Ready** message does not appear on the display). • Exit printer menus and return to the Ready state. • Clear some operator panel messages. • Resume printing after loading paper or clearing paper jams. • Exit Power Saver. If you have changed printer settings from the operator panel menus, press **Go** before sending a job to print. The printer must display **Ready** for jobs to print.
Menu	Press **Menu** to: • Take the printer offline (out of the Ready state) and enter the menus. When the printer is offline, press **Menu** to scroll through the menus and menu items. • List the menu items in the Job Menu (during Busy state). For menu items that have numerical values, such as Copies, press and hold **Menu** to scroll through the list of values. Release the button when the number you want appears. If you see a Menu Disabled message, you will not be able to change default settings. You can still clear messages and select items from the Job Menu when printing. When you send a job to print, change printer properties to select the settings you want for your job.
Select	Press **Select** to: • Open the menu shown on the second line of the display. • Save the displayed menu item as the new user default setting. • Clear certain messages from the display. • Continue printing after the **Change <*x*>** message appears.
Return	Press **Return** to go back to the previous menu level or menu item.
Stop	Press **Stop** at the Ready, Busy or Waiting message to temporarily take the printer offline. The message changes to Not Ready. No date is lost.
1,**2**,**3**,**4**,**5**,**6**	Use the numbers located next to the names of the buttons to enter your personal identification number (PIN) after you send a confidential job.

See the menu map for a brief overview of the printer menus available from the operator panel.

Select a menu or menu item for more details.

Color Menu
Color Adjust
Color Balance
Color Correction
Color Samples
Color Saver
Manual Color
Print Mode
Print Resolution
Toner Darkness

Finishing Menu
Duplex
Duplex Bind
Copies
Blank Pages
Collation
Separator Sheets
Separator Source
Hole Punch
Offset Pages
Staple Job
Staple Prime Src
Multipage Print
Multipage Order
Multipage View
Multipage Border

Help Menu
Print All
Help Guide
Printing Guide
Supplies Guide
Print Quality
Color Quality
Media Guide
Connection Guide
Moving Guide
Print Defects
Jam Clearance

Job Menu
Cancel Job
Reset Printer
Print Buffer
Cancel Fax
Confidential Job
Held Jobs
Reset Active Bin

Network Menu
PCL SmartSwitch
PS SmartSwitch
MAC Binary PS
NPA Mode
Network Buffer
Job Buffering
Network <x> Setup
Std Net Setup

Parallel Menu
PCL SmartSwitch
PS SmartSwitch
NPA Mode
Parallel Buffer
Job Buffering
Advanced Status
Protocol
Honor Init
Parallel Mode 1
Parallel Mode 2
MAC Binary PS

PCL Emul Menu
Font Source
Font Name
Point Size
Pitch
Symbol Set
Orientation
Lines per Page
A4 Width
Auto CR after LF
Auto LF after CR
Tray Renumber

Paper Menu
Paper Source
Paper Size
Paper Type
Custom Types
Output Bin
Configure Bins
Overflow Bin
Assign Type/Bin
Substitute Size
Configure MP
Paper Texture
Paper Weight
Paper Loading
Universal Setup

PostScript Menu
Print PS Error
Font Priority
Image Smoothing

Serial Menu
PCL SmartSwitch
PS SmartSwitch
NPA Mode
Serial Buffer
Job Buffering
Serial Protocol
Robust XON
Baud
Data Bits
Parity
Honor DSR

Setup Menu
Printer Language
Printer Usage
Power Saver
Resource Save
Download Target
Print Timeout
Auto Continue
Wait Timeout
Jam Recovery
Page Protect
Display Language
Alarm Control
Hole Punch Alarm
Staple Alarm
Toner Alarm
Job Accounting
Print Area
Black & White Lock

Supplies Menu
<color> Toner
Oiler
Waste Bottle

USB Menu
PCL SmartSwitch
PS SmartSwitch
MAC Binary PS
NPA Mode
USB Buffer
Job Buffering

Utilities Menu
Print Menus
Print Net <x> Setup
Print Fonts
Print Directory
Factory Defaults
Format Flash
Defragment Flash
Format Disk
Job Acct Stat
Hex Trace
Color Alignment
Coverage Estimator

Color Menu

Use the Color Menu to adjust print quality and customize color printing.

Note: Values marked by an asterisk (*) are the factory default settings.

Menu Item	Purpose	Values	
Color Adjust	To manually recalibrate the color conversion tables, adjusting for variations in output that can occur as a result of changing conditions, such as room temperature or humidity.	No selections exist for this operation. Pressing **Select** initiates this operation.	
Color Balance	To provide users with the ability to make subtle color adjustments to printed output by increasing or decreasing the amount of toner being used for each color plane individually. **Note:** This function is only applied to files printed using the PostScript driver.	**Cyan**	-5, -4, -3, -2, -1, 0*, 1, 2, 3, 4, 5 • -5 is maximum decrease • 5 is maximum increase
		Magenta	
		Yellow	
		Black	
		Reset Defaults	Sets values for Cyan, Magenta, Yellow, and Black to 0 (zero).
Color Correction	To adjust the printed color to better match the colors of other output devices or standard color systems. **Note:** Due to the differences between additive and subtractive colors, certain colors that appear on your monitor are impossible to duplicate on your printer.	**Auto***	Applies different color conversion tables to each object on the printed page depending upon the type of object and how the color for each object is specified.
		Off	No color correction is implemented.
		Manual	Lets you customize the color conversion tables applied to each object on the printed page depending upon the type of object and how the color for each object is specified. Customization is performed using the selections available under the Manual Color menu item.
Color Samples	To assist users in selecting colors to be printed. Users can print color samples pages for each of the RGB and CMYK color conversion tables used in the printer. The color samples pages consist of a series of colored boxes along with the RGB or CMYK combination that creates the color observed for each particular box. These pages can be useful in helping users decide which RGB or CMYK combinations to use in their software applications to create the desired printed color output.	**sRGB Display**	Prints RGB samples using sRGB Display color conversion tables.
		sRGB Vivid	Prints RGB samples using sRGB Vivid color conversion tables.
		Off–RGB	Prints RGB samples using Off (or no) color conversion tables.
		Vivid	Prints RGB samples using Vivid color conversion tables.
		US CMYK	Prints CMYK samples using US CMYK color conversion tables.
		Euro CMYK	Prints CMYK samples using Euro CMYK color conversion tables.
		Off–CMYK	Prints CMYK samples using Off (or no) color conversion tables.
		Vivid CMYK	Prints CMYK samples using Vivid CMYK color conversion tables.

Menu Item	Purpose	Values	
Color Saver	To conserve toner. If selected, this setting overrides Toner Darkness settings.	**Off***	Prints using Toner Darkness setting.
		On	Applies a lower Toner Darkness level. Toner Darkness setting is ignored.
Manual Color	To let users customize the RGB or CMYK color conversions applied to each object on the printed page. Color conversion of the data specified using RGB combinations can be customized based on object type (text, graphics, or image).	**RGB Image**	• **sRGB Display***: Applies a color conversion table to produce output that approximates the colors displayed on a computer monitor. • **sRGB Vivid**: Increases color saturation for the sRGB Display color conversion table. Preferred for business graphics and text. • **Off**: No color conversion is implemented. • **Vivid**: Applies a color conversion table that produces brighter, more saturated colors.
		RGB Text **RGB Graphics**	• **sRGB Display** • **sRGB Vivid*** • **Off** • **Vivid**
		CMYK	• **US CMYK** (default for 120V machines)**:** Applies a color conversion table to approximate SWOP color output. • **Euro CMYK** (default for 220V machines): Applies color conversion table to approximate EuroScale color output. • **Vivid CMYK:** Increases color saturation for the US CMYK color conversion table. • **Off:** No color conversion is implemented.
Print Mode	To determine whether files are printed in a monochrome grayscale or in color.	**Color***	
		Black & White	
Print Resolution	To define the number of dots printed per inch (dpi).	**4800 CQ***	Default setting.
		1200 dpi	Provides the highest resolution output which generates preferable output for certain images and graphics. This setting also provides increased gloss.

Menu Item	Purpose	Values	
Toner Darkness	To lighten or darken printed output, or conserve toner. **Note:** Setting Toner Darkness to values of 1, 2, or 3 is only effective when using the PostScript driver.	**5**	If Print Mode is Black & White, a setting of 5 increases toner density and darkness to all print jobs (PCL or PostScript). If Print Mode is Color, a setting of 5 is the same as 4.
		4*	Default toner darkness setting.
		3	Reduction in toner consumption.
		2	Further reduction in toner consumption.
		1	Maximum reduction in toner consumption.

Utilities Menu

Use the Utilities Menu to print a variety of listings relating to available printer resources, printer settings, and print jobs. Other menu items let you set up printer hardware and troubleshoot printer problems.

Menu Item	Purpose	Values	
Color Alignment	To print a color alignment test page, which can be used to properly align how colors are printed. You are prompted to enter alignment values for each setting (A...L).	**0...20 (10*)**	Used to indicate which line is most acceptable for alignments A...L.
Coverage Estimator	Provides an estimate of the percent coverage of cyan, magenta, yellow, and black on a page. This estimate is printed on the page.	**Off***	Percent coverage is not printed.
		On	Prints the estimated percentage of coverage for each color on the page.
Defragment Flash	To retrieve storage area lost when resources are deleted from flash memory. Do not turn off the printer while the flash is defragmenting.	**Yes**	Printer transfers all resources stored in flash memory to printer memory and then reformats the flash memory option. When the format operation is complete, the resources are loaded back into flash memory.
		No	Printer cancels the request to defragment the flash memory.
Factory Defaults	To return your printer settings to the factory default values.	**Restore**	• All menu items are returned to the factory default values except: - Display Language. - All settings in the Parallel Menu, Serial Menu, Network Menu, and USB Menu. • All downloaded resources (fonts, macros, and symbol sets) in printer memory (RAM) are deleted. (Resources residing in flash memory or on the hard disk are unaffected.)
		Do Not Restore	User-defined settings remain.

Menu Item	Purpose	Values	
Format Disk	To format the printer hard disk. **Warning:** Do not turn off the printer while the hard disk is formatting.	**Yes**	Deletes any data stored on the hard disk and prepares the device to receive new resources.
		No	Cancels the request to format the hard disk and leaves current resources stored on the disk.
Format Flash	To format the flash memory. **Warning:** Do not turn off the printer while the flash is formatting.	**Yes**	Deletes any data stored in flash memory and prepares the flash memory to receive new resources.
		No	Cancels the request to format the flash memory and leaves current resources stored in flash memory.
Hex Trace	To help isolate the source of a print job problem. With Hex Trace selected, all data sent to the printer is printed in hexadecimal and character representation. Control codes are not executed. To exit Hex Trace, turn the printer off or reset the printer from the Job Menu.		
Job Acct Stat	To print a listing of all job statistics stored on the hard disk, or to clear all statistics on the disk.	**Print**	Prints all statistics available for the most recent print jobs.
		Clear	Deletes all accumulated job statistics from the hard disk.
Print Directory	To print a list of all the resources stored in flash memory or on the hard disk. **Note:** Print Directory is available only when either a nondefective flash or disk is installed and formatted, and Job Buffer Size is not set to 100%.		
Print Fonts	To print a sample of all the fonts available for the selected printer language.	**PCL Fonts**	Prints a sample of all printer fonts available for PCL emulation.
		PS Fonts	Prints a sample of all printer fonts available for PostScript emulation.
Print Menus	To print a listing of the current user default values, the installed options, the amount of installed printer memory, and the status of printer supplies.		
Print Net <*x*> Setup	To print information relating to the internal print server and the network settings defined by the Network <*x*> Setup menu item in the Network Menu.		

User attendance messages

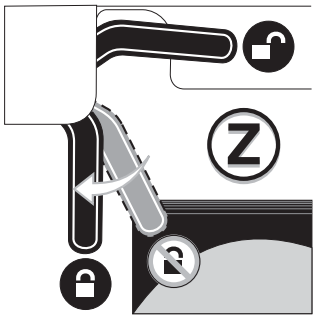
Note: A secondary message only displays if the finisher option is installed. Use the **"Sub error code table" on page 2-18** to help diagnose paper jam problems.

User primary message	User secondary message	Explanation
Setup Required		This message is displayed when the printer has detected at POST, that packing material is still installed and must be removed. The user should verify that the machine is properly setup. Press **Go** and Reflash Code.
A Alignment = *x.x**		This message is displayed when an ITU Alignment Procedure is in process and the printer is prompting the user for the A alignment value. Alignment values for A through L (=*x.x**) -7 to +7 in 0.5 increments. • Enter the alignment value and press **Select** to continue to the next alignment value. • To stop the alignment operation press **Go** or **Return**.
Change <*custom Type Name*> <*input source*>		This message is displayed when the printer is requesting the operator to change the media installed in one of the input sources. <*input source*>=Tray 1 through 5, MPF or Envelope Feeder.
Change <*input source*> <*Custom String*> Change <*input source*> <*Size*> Change <*input source*> <*type*> <*size*>		One of the following is displayed on line two. The user can define a name for each of the custom types (Custom 1 through 6)
Reattach Output Bin *x* Reattach Bins *x-y* Check Tray *x* Connection		These messages are displayed anytime the printer loses communications with one of the following options: • Output Bin *x* (*x*=1,2 or 3) • Bins (*x-y*=1 through 5) • Tray *x* (*x*=2,3,4 or 5) • Duplex • Finisher
Check Duplex Connection Check Finisher Connection		The specified option could have been removed from the printer, maybe to clear a paper jam or to remove the option or the option may be still installed but experiencing a communications problem. The option may not be fully installed or it may have a hardware failure. The most likely cause of this message is a failure to reattach the option when removed to service a printer intervention. If the option was temporarily removed or not connected properly, then reattach or reconnect it. When the option is recognized, the printer automatically clears the attendance message and continues. Press **Go** to execute a configuration change which will tell the printer the option has been Hot Unplugged removed. In this case it is assumed that the user wants to continue to operate the printer with the option removed. If the problem continues, turn the printer off and back on. If the message continues to be displayed, turn the printer off, remove the option and call for service.

User primary message	User secondary message	Explanation
Close Door		This message is displayed when the printer upper front cover (door) is open. Close the upper front cover (door).
Close <tray> Door		This message is displayed when the HCIT (2000-sheet) option tray door is open. Close the tray door to clear the message.
Close Finisher Door		This message is displayed when the Finisher Option front door is open. Close the finisher front door.
Disk Corrupted		This message is displayed when the printer has detected that there are errors on the hard disk that could not be corrected. The disk cannot be used until it has been reformatted. The following actions can be taken: • Press **Return** or **Stop** to clear the message. The disk cannot be used without reformatting the disk. **Warning**: All data will be lost if you press **Go** to format the disk.
Empty Hole Punch Box		This message is displayed when the Hole Punch Alarm is On and the code has determined that the Hole Punch Waste Box is completely full. The following actions may be taken while this message is displayed: • The user may empty the Hole Punch Box and put it back to clear the message. • Press **Go** to ignore the message and the job prints without hole punching. Each time a new job requests Hole Punch and the box is not emptied, this message is displayed.
Priming Failed, Retry. GO/Stop		This message is displayed when an error has occurred during the printer staple priming operation. The following actions can be taken: • Press **Go** to initiate the priming operation again or • Press **Return** or **Stop** to cancel the priming operation. **Note**: If no action is taken and the printer Auto Continue setting is not disabled, the printer eventually clears the message, the priming operation is canceled, and the printer resumes printing.
Insert Staple Cartridge		This message is displayed when the staple cartridge is missing or installed incorrectly. This message can be displayed at any of the following times, regardless of the Staple Alarm setting. • At POST • After the Stapler Door has been closed. The following actions can be taken: • Install the staple cartridge or • Press **Go** to ignore this message. The printer now handles staple jobs as if the staple unit were installed with no staples. The Staples Empty warning appears on the status line and Load Staples may immediately appears.

User primary message	User secondary message	Explanation
Load Staples		This message is displayed when the Staples Empty Alarm is activated and there are no staples in the staple unit or the staple unit is not installed. This message appears: • Prior to printing the first page of a batch of pages that are to be stapled or • During the printing of a batch of pages that are to be stapled (if the condition cannot be detected prior to printing the first page of the batch). The following actions can be taken: • A new staple cartridge may be installed to clear this message and start/continue printing the staple batch or • Ignore the Load Staples request for this print job by pressing **Go** or **Select**. The printer resumes printing, however the print job for which stapling was selected is not stapled or • Press **Menu** to access the Busy/Waiting Menu. The following functions are available using the Busy/Waiting Menu: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.

User primary message	User secondary message	Explanation
Install Tray *x* or Cancel Job Install Bin *x* or Cancel Job Install Duplex or Cancel Job		This message is displayed when the printer requests the user to insert tray *x* before it can continue printing the job. The printer needs to pick media from the missing tray or the trays below it. Tray=Tray 1, Tray 2, Tray 3, Tray 4, or Tray 5 **Note**: This message displays when refilling the trays during a job. Before filling tray *x* take the printer offline by pressing **Stop** and wait for pages to reach the output bin. The following actions can be taken: • Insert the requested tray or • Press **Menu** to access the Busy/Waiting Menu. The following functions are available using the Busy/Waiting Menu: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels This message is displayed when the user has Hot Unplugged a paper handling option and the printer requires the reinstallation of the option to print a page which has been formatted by an install Tray *x* interpreter prior to removal of the option or Cancel Job: • Bin *x* (*x*=1,2 or 3) • Tray *x* (*x*=2,3,4 or 5) • Duplex The following actions can be taken: • Insert the requested option or • Press **Menu** to access the Busy/Waiting Menu Group. The following functions are available using the Busy/Waiting Menu: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels
No DRAM Installed		This message is displayed when the printer is turned on and no DRAM is detected.

User primary message	User secondary message	Explanation
30 ITU Error Check Area Move Z Down Power Off/On		This message is displayed when the ITU is not sensed. If the ITU is present, check the ITU Release Lever for correct operation. The ITU Release Lever is the black lever located on the left upper side frame above the ITU opening and can be seen by opening and lowering the MPF Assembly. When locked the lever should be at the 6 o'clock position. When unlocked it should be in a 3 o'clock position. Undue pressure is not required to operate the lever.  If the ITU is not present, turn the printer off, insert the ITU, move the lever to the 6 o'clock position, and turn the printer back on.
30 Yellow Toner Cart Missing 30 Magenta Toner Cart Missing 30 Cyan Toner Cart Missing 30 Black Toner Cart Missing		This message is displayed when the printer is missing the yellow, magenta, cyan, or black toner cartridge. Open the front cover, insert the toner cartridge, and close the cover. **Note:** Verify that cartridge packing material is removed.
31 Defective Black Cartridge 31 Defective Yellow Cartridge 31 Defective Magenta Cartridge 31 Defective Cyan Cartridge		This message is displayed when the front cover is closed and a defective print cartridge is detected. It may take the printer 10 to 20 seconds to determine whether or not the print cartridge is installed. The printer may print pages during this 10 to 20 second interval. If pages are allowed to print, then they will not be reprinted once a valid print cartridge is inserted. Replace the defective print cartridge. The defective cartridge can be removed while the message is displayed.
32 Unsupported		This message is displayed when the front cover is closed with the wrong print cartridge installed.
33 Calibration Error Cyan 33 Calibration Error Magenta 33 Calibration Error Yellow 33 Calibration Error Black		This message is displayed when the printer detects a calibration error for a particular color. When this message is displayed you can press **Go** to clear the message and continue processing the job. The cartridge state is updated in the supplies menu.

User primary message	User secondary message	Explanation
34 Incorrect Media	Change <source> <type><size>	This message is displayed when the printer detects a media mismatch. Primary Message: 34 Incorrect Media. Secondary Message: <*type*>= Bond, Cardstock, Colored, Labels, Envelopes, Letterhead, Plain, Preprint, Transparency or Glossy. <*size*>= Letter, Legal, B5, A4, Exec, Univ, A5, A3, 11x17, Folio or Stmt, 73/4, 9, 10, DL, C5, B5 or other. The following actions can be taken: • Replace the media in the source with the requested media and press **Go** or • Press **Menu** to access the Busy/Waiting Menu. The following functions are available using the Busy/Waiting Menu: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/Waiting Menu. **Note:** If message persists, go to **"BASE SENSOR TEST" on page 3-30** and check operation of inline media sensor.
34 Short Paper		This message is displayed when the printer determines that the paper length is too short to print the data as formatted. The following actions can be taken: • Press **Go** to clear the error and continue printing pages or • Press **Menu** to access the Busy/Waiting Menu. The following functions are available using the Busy/Waiting Menu: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.
35 Res Save Off Deficient Memory		This message displays when the printer lacks sufficient memory to enable Resource Save. This message usually indicates the user has allocated too much memory for one or more of the printer link buffers; however, modification of other printer settings which affect the amount of available memory may also create this condition. If restoration of Resource Save is required after this message is received, the customer should install additional memory or set each link buffer to Auto. Once all link buffers are returned to Auto, you should exit the menus to activate the link buffer changes. Once the printer returns to the Ready state, you can then enable Resource Save and go back and modify the link buffers, again. Note the reduction of available memory to the link buffers when Resource Save has been enabled and compare it to the memory available when Resource Save is disabled.

User primary message	User secondary message	Explanation
36 Printer Service Required		This message is displayed when background toner prevents a completion of a TPS calibration cycle. Service is required to fix the problem. Press **Go** to clear the error. If the Service Printer message is displayed it means that a TPS failure has most likely occurred. The printer continues to operate but the color quality degrades. The most probable cause for this error message is a defective print cartridge or ITU.
37 Insufficient Collation Area		This message is displayed when the printer memory and disk used to store pages is too full to collate the print job. The following actions can be taken: • Press **Go** to clear the message and continue collating the remaining pages of the job or • Press **Menu** to access the Busy/Waiting Menu. The following functions are available using the Busy/Waiting Menu: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.
37 Insufficient Defrag Memory		This message is displayed when insufficient printer memory is available to perform Flash Memory Defragment operation. This message appears prior to the actual start of the defragment operation. Press **Go** to clear the message. To perform the defragment operation you can: • Delete fonts, macros and other data in RAM • Install additional printer memory • Press **Menu** to access the Busy/Waiting Menu. The following functions are available using the Busy/Waiting Menu: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.

User primary message	User secondary message	Explanation
37 Insufficient Memory	Held Jobs May Not Be Restored Help Jobs May Not be Restored	This message displays when the printer has attempted to Print and Hold jobs from the disk and found that some or all of the jobs could not be restored. Each of the three 57 Configuration Held Jobs messages describe different conditions under which the restore failed. • Primary Message: 37 Insufficient Memory. The printer firmware ran out of memory while attempting to restore the jobs. Secondary Message: Held Jobs May Not Be Restored. • Primary Message: 57 Configuration Change - The printer firmware could not restore jobs from the disk because the configuration of the printer has changed. Secondary Message: Held Jobs May Not Be Restored. Some configuration changes that can cause a 57 Configuration Change message are: - Code version change - Paper handling option removed - Disk drive has been moved to a different printer. • Primary Message: Held Jobs May Not Be Restored handles any other conditions where any of the Print and Hold jobs could not be restored from the disk. **Note**: Some of the Print and Hold jobs may not be restored. They remain on the disk but cannot be accessed.
38 Memory Full		This message is displayed when the printer is processing an incoming job and there is not enough memory available to continue processing the job. The following actions can be taken: You may want to determine how to make more memory available to your print job by: • Deleting fonts, macros and other data in RAM • Simplify your print job • Install additional memory • Press **Go** to clear the message, however some data may be lost • Press **Menu** to access the Busy/Waiting Menu The following functions may be available. • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.
39 Complex Page		This message is displayed when a page is too complex to print. The following actions can be taken: • Press **Go** to clear the message and continue processing the job, some data loss may occur. • Try to simplify the print job Press **Menu** to access the Busy/Waiting Menu. The following functions may be available: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.

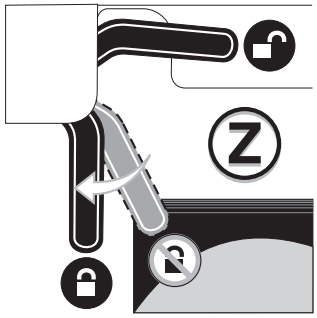
User primary message	User secondary message	Explanation
40 <*color*> Invalid Refill		This message is displayed when the printer has detected a refilled Return Program cartridge. <*color*> can be black, cyan, magenta, or yellow. Remove the toner cartridge and install a new cartridge. Press and hold **Select** and then press **Return** to display any secondary error codes that might help diagnose a problem. **Note**: The user receives this message for every invalid cartridge installed.
50 PPDS Font Error		This error displays when the PPDS interpreter has detected a font error. When a specific font, which is not installed is requested, based on a PPDS mode Set Font Global command, a Select Code Page command, or a comprehensive Font Selection command and the printer BEST FIT setting is OFF. If BEST FIT is ON, the printer performs a best fit search to find a similar font and this error does not occur. This error also displays when the printer receives invalid PPDS download font data. **Note:** This error only occurs when a printer is formatting PPDS print data. Other data streams support different protocols for handling font errors. The following actions can be taken while this message is displayed: • Press **Go** to clear the message and continue processing the job. • Press **Menu** to access the Busy/Waiting Menu. The following functions may be available via the Busy/ Waiting: - Cancel Job - Reset Printer - Reset Active Bin
51 Defective Flash		This message is displayed when the printer detects a defective flash. Press **Go** to clear the message. The flash is marked as bad and normal operation continues. No flash operation is allowed until the flash problem is resolved.
52 Flash Full		This message is displayed when there is not enough free space in the flash memory to hold the resources that have been requested to be written to flash. **Note**: The following action deletes all downloaded Fonts and Macros not written to flash: • Press **Go** to clear the message and continue processing the print job. • Press **Menu** to access the Busy/Waiting Menu. The following functions may be available: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/ Waiting Menu.

User primary message	User secondary message	Explanation
53 Unformatted Flash		This message is displayed when the printer detects an unformatted flash at POST. Press **Go** to clear the message. The flash is marked bad and normal operation continues. Flash operations are not allowed until the flash is formatted.
54 Std Par ENA Connection Lost		This message is displayed when the printer detects during POST that the connection to an ENA has been lost. Once a connection is initially established, a printer setting is modified to 54 Par x ENA to note a connection exists. Each time the power is cycled on, the connection is lost.
54 Std Network Software Error		This message is displayed when the RIP software detects that a network port is installed but cannot establish communications with it.
54 Network *x* Software Error		Press **Go** to clear this message. The printer disables all communications to the associated network interface. No data may be received or sent from or to the associated interface. The user can program new firmware in the network using the parallel port after this message clears.
54 Serial Option *x* Error		This message is displayed when a serial error, either framing, parity or overrun, is detected on the specified (option *x*) serial port. This usually means the serial port is not set up correctly. Press **Go** to clear the message and continue processing the print job. **Note**: If the print job does not print correctly, make sure that the correct cable is being used.
55 Unsupported Option in Slot *x* 55 Unsupported Flash in Slot *x*		This message displays when an unsupported option is installed or when an unsupported flash DIMM, such as a C750 version, is installed in a memory slot. Turn off the printer and remove the offending option.
56 Serial Port *x* Disabled		These messages may appear when data is sent to the printer across a serial port, but the port is disabled. **Note**: Once the error is displayed the first time, reporting of further errors is suppressed until the printer is reset or menus are entered. The following actions can be taken: • Press **Go** to clear the message. Any data received on the serial port is discarded. • Press **Menu** to access the Busy/Waiting Menu. The following functions may be available: • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.

User primary message	User secondary message	Explanation
56 Std Parallel Port Disabled 56 Parallel Port *x* Disabled		These messages may appear when data is sent to the printer across a parallel port, but the port is disabled. **Note**: Once the error is displayed the first time, reporting of further errors is suppressed until the printer is reset or menus are entered. The following actions can be taken: • Press **Go** to clear the message. Any data received on the parallel port is discarded. • Press **Menu** to access the Busy/Waiting Menu. The following functions may be available: • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/ Waiting Menu.
56 Standard USB Port Disabled 56 USB Port *x* Disabled		These messages may appear when data is sent to the printer across the USB port, but the port is disabled. **Note**: Once the error is displayed the first time, reporting of further errors is suppressed until the printer is reset or menus are entered. The following actions can be taken: • Press **Go** to clear the message. Any data received on the USB port is discarded • Press **Menu** to access the Busy/Waiting Menu. The following functions may be available: • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/ Waiting Menu.
57 Configuration Change	Held Jobs May Not Be Restored Help Jobs May Not be Restored	This message are displays when the printer has attempted to Print and Hold jobs from the disk and found that some or all of the jobs could not be restored. Each of the three 57 Configuration Held Jobs messages describe different conditions under which the restore failed. • Primary Message: 37 Insufficient Memory. The printer firmware ran out of memory while attempting to restore the jobs. Secondary Message: Held Jobs May Not Be Restored. • Primary Message: 57 Configuration Change - The printer firmware could not restore jobs from the disk because the configuration of the printer has changed. Secondary Message: Held Jobs May Not Be Restored. Some configuration changes that can cause a 57 Configuration Change message are: - Code version change - Paper handling option removed - Disk drive has been moved to a different printer. • Primary Message: Held Jobs May Not Be Restored handles any other conditions where any of the Print and Hold jobs could not be restored from the disk. **Note**: Some of the Print and Hold jobs may not be restored. They remain on the disk but cannot be accessed.
58 Too Many Trays Attached		This message is displayed when too many trays are attached to the printer. Check the specifications and verify the number of trays allowed on each printer model.

User primary message	User secondary message	Explanation
58 Too Many Bins Attached		This message is displayed when too many optional bins are attached to the printer or if an unsupported combination of bins is installed.
58 Too Many Disks Installed		This message is displayed when too many disks are installed. **Note**: Some configurations of different output options require the installation of one option before the other.
58 Too Many Flash Options		This message is displayed when too many Flash Options are installed. Verify the maximum number of flash memory options which may be installed. **Note**: Press **Go** to clear the message. The extra flash memory options are ignored.
59 Incompatible Output Bin *x* 59 Incompatible Tray *x* 59 Incompatible Duplex		These messages are displayed when the user installs an incompatible option. The following options may be incompatible for use on one or more C76x models: • Output Bin *x* (*x*=1, 2 or 3) • Tray *x* (*x*=2,3,4 or 5) • Duplex • Envelope feeder The user is required to remove the incompatible option and press **Go** to clear the message. **Note**: If the user installed the incompatible option to satisfy a Check Option Connections/Reattach Option attendance condition, the user must reinstall an associated compatible option or Hot Unplug the option.
61 Defective Disk		This message is displayed when the printer detects a defective disk. This error may occur at power on, or during disk format and write operations. Press **Go** to clear the message. The disk is marked as defective and normal printer operation continues. Disk operations are not allowed with a defective disk and the Format Disk menu item is not shown.
62 Disk Full		This message is displayed when there is not enough free space on the disk to hold the data that have been requested to be written to the disk. This message is displayed for both resource collection and PostScript when the disk is full. The following actions can be taken, however this deletes all downloaded Fonts and Macros not written to disk. • Press **Go** to clear the message and continue processing the print job • Press **Menu** to access the Busy/Waiting Menu The following functions may be available: • Cancel Job • Reset Printer • Reset Active Bin • Check Supply Levels **Note**: Menu Lockout does NOT prevent access to the Busy/Waiting Menu.

User primary message	User secondary message	Explanation
63 Unformatted Disk		This message is displayed when the printer detects an unformatted disk at POST. Press **Go** to clear the message. The disk is marked as bad and normal operation continues, however disk operation is not allowed until the disk is formatted.
64 Unsupported Disk Format		This message is displayed when the printer detects an unsupported disk format at POST. This message may appear if the disk was formatted on another system with a different format. Press **Go** to clear the message. The disk is marked as bad and normal operation continues, however disk operations is not allowed until the disk is formatted.
80 Fuser Maintenance		This messages displays when the printer requires replacement of a worn assembly. The message is independently posted when a fuser needs to be replaced. Press **Go** to clear this message. See **“Scheduled maintenance” on page 6-4** for the part number of the maintenance kit.
81 Engine Code CRC Failure		This message is displayed when microcode programmed into the engine flash code fails a CRC check. Press **Go** to clear the message. The code data is discarded and must be resent from the host computer.
82 Waste Toner Bottle Full		This message is displayed when the waste container is full. Replace the waste container and press **Go**.
82 Waste Toner Bottle Missing		This message is displayed when the waste container is missing. Insert the waste container and press **Go**.
82 Waste Bottle Nearly Full		This message is displayed when the waste container is nearly full. Press **Go** Nearly Full appears in the Supplies Menu.
83 ITU Maintenance		This message displays when the ITU reaches end of life. It is recommended the customer order the maintenance kit. See **“Scheduled maintenance” on page 6-4** for the part number of the maintenance kit. You can press **Go** to continue, however, the message persists until replacement.
84 Replace Oiler		This message is displayed when the web oiler is exhausted or missing. Replace the web oiler. See **“Scheduled maintenance” on page 6-4** for the part number of the web oiler fuser replacement kit.
84 Oiler Nearly Exhausted		This message is displayed when the web oiler is nearly exhausted. Press **Go** to continue to clear this message. If 84 Oiler Nearly Exhausted message does not clear after a new web oiler has been installed, replace parts in the following order: • Fuser web oiler drive motor assembly • Fuser web oiler card.

User primary message	User secondary message	Explanation
85 ITU Maintenance		Check printouts for excess toner. If present, replace the suspect cartridge. Otherwise, replace the **"ITU assembly" on page 4-44**. Press **Go** to continue, however, the message persists until replacement.
86 ITU Maintenance		This message displays when the ITU reaches end of life. Check printouts for excess toner. If present, replace the suspect cartridge. Otherwise, Replace the **"ITU assembly" on page 4-44**. Press **Go** to continue, however, the message persists until replacement.
87 Fuser Missing		This message is displayed when the engine detects the fuser is missing. Turn the printer off and insert the fuser assembly.
88 Yellow Toner Low 88 Magenta Toner Low 88 Cyan Toner Low 88 Black Toner Low		These messages are displayed when either the Yellow, Magenta, Cyan, or Black toner cartridge is low on toner. The following actions can be taken: • Open the front door, remove the old toner cartridge, insert a new toner cartridge, and close the door or • Press **Go** without changing the toner cartridge and continue.
89 ITU Maintenance		Check the ITU Release Lever for correct operation. The ITU Release Lever is the black lever located on the left upper side frame above the ITU opening and can be seen by opening and lowering the MPF Assembly. When locked the lever should be at the 6 o'clock position. When unlocked it should be in a 3 o'clock position. Undue pressure is not required to operate the lever Turn the printer off, insert the ITU, move the lever to the 6 o'clock position, and turn the printer back on.  If this does not resolve, replace the **"ITU assembly" on page 4-44**. Press **Go** to continue. The message persists until replacement.
1565 Emul Error Load Emul Option		This message appears when the IPDS emulation version contained in the SIMM does not function with the printer code. This message automatically clears in 30 seconds, and the IPDS emulation is disabled. No other printer functions are affected. The correct IPDS emulation must be downloaded.

Service checks

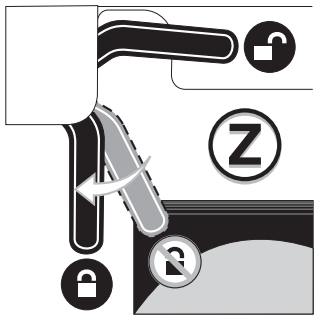
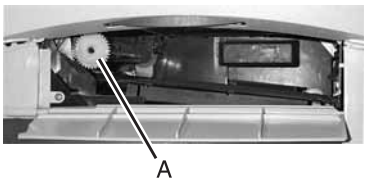
100 ITU Error

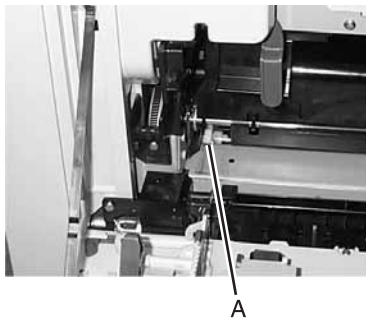
A 100 ITU error indicates that the printer did not detect the ITU belt home sensor. Before proceeding with this service check make sure that the Second Transfer Roll is correctly installed. After you reinstall the Second Transfer Roll, check to see if a 100 ITU error is still displayed. If a 100 ITU error is still being displayed, continue with this check.

The ITU has an optical sensor that watches for a piece of reflective tape on the inside of the image belt. This tape is read every revolution of the belt. If a signal is not received from the belt sensor within a certain time period, the printer posts an error due to the loss of signal. There are several causes for the loss of signal. First, the belt has tracked too far to the front or rear of the printer. In this case, the belt is still turning, but the reflective tape is no longer passing within view of the belt sensor. This is considered a belt tracking error and is initially posted as a 104 ITU Error. The other causes of a signal loss could be a belt stall, meaning the belt is not turning, or a true signal loss, which would be due to a bad sensor, broken cable, loose connection, or bad system board. These other causes post as a 100 ITU Error.

To assist the printer in determining what is the cause of a signal loss, there is a buffer that records the belt position for the last 50 revolutions. If the printer loses the belt signal, it refers to the buffer. If the buffer shows significant mistracking before signal loss, it will post a 104 ITU Error. If the buffer shows that the belt has been tracking in the center before signal loss, it posts a 100 ITU Error. Due to memory restrictions, the buffer is not saved during POR. This means, if a printer posts a 104 ITU Error, so the belt is tracked off, and the customer or servicer turns off the printer to clear the error, when the printer starts up, it will still not see the belt signal and will now post a 100 ITU Error because the buffer is empty. When servicing a printer for a 100 ITU Error, it is important to view the error log. See **“Display Log” on page 3-35**. The error log can only be displayed at this point. Do not try to print the log. Look for past occurrences of 100 ITU Errors preceded by a 104 ITU Error.

Step	Action and questions	Yes	No
1	Make sure all packing material is removed from the printer. The detensioner is located underneath the toner cartridges. Make sure the ITU Detensioner is removed. Remove the Detensioner by pulling up on the red handle on the right side of the ITU. **Note**: All the print cartridges must be removed to gain access to the Detensioner packing material. Has all packing material been removed from the printer?	Go to step 2	Remove any remaining packing material from the printer

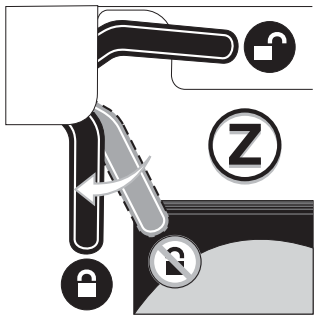
Step	Action and questions	Yes	No
2	Check the ITU Release Lever for correct operation. The ITU Release Lever is the black lever located on the left upper side frame above the ITU opening and can be seen by opening and lowering the MPF Assembly. When locked the lever should be at the 6 o'clock position. When unlocked it should be in a 3 o'clock position. Undue pressure is not required to operate the lever.  Does the ITU release lever operate correctly?	Go to step 3	Repair as necessary
3	Check the second transfer roll installation. Is it installed correctly?	Go to step 4	Reinstall the second transfer roll.
4	Check the display error log in the Diagnostic Menu. Is 100 ITU preceded in the log by a 104 ITU Error?	Go to **"104 ITU Error" on page 2-44**.	Go to step 5
5	Remove the ITU assembly and check that the sensor cable is seated in the handle of the ITU assembly correctly. **Note:** The sensor connector is located on the side of the ITU handle assembly. Is the cable seated correctly?	Go to step 6	Reinstall the cable correctly. Check again for a 100 ITU Error. If 100 ITU Error is displayed, go to step 6
6	The front contamination shield is attached to the font plate of the ITU frame and lies on the top of the ITU belt. Is the front contamination shield lying on the belt?	Go to step 7	Position the shield on top of the belt.
7	Make sure the ITU Cleaner Gear (A) is turning. Observe the gear by opening the front Paper Jam Door above the integrated paper tray 1. Observe the white cleaner gear during POR. The gear should turn slowly and smoothly for approximately 8 seconds before the printer displays a 100 ITU error.  A Is the ITU Cleaner Gear turning?	Go to step 11	Go to step 8

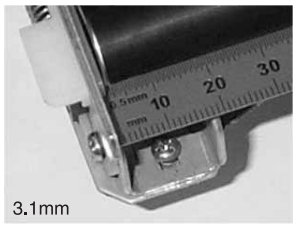
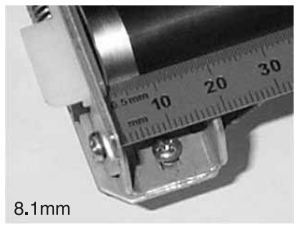
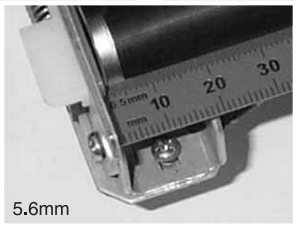
Step	Action and questions	Yes	No
8	Check to see if the ITU Drive Roll Gear (A) is turning during POR. Observe the gear by opening the MFP door to its horizontal position. Observe the gear on the left end of the ITU Drive Roll. The ITU Drive Roll Gear should turn for a few seconds slowly and smoothly before the printer posts a 100 ITU error.  Does the Gear turn?	Go to step 10	Go to step 9
9	Check to see if the ITU Drive Motor is turning during POR. Observe the ITU Motor during POR by removing the Rear Cover. Is the ITU Drive Motor turning?	Replace the **"ITU drive assembly" on page 4-44**	Go to step 10
10	Check the printer is setting on a solid flat surface. Is the printer setting on a solid flat surface?	Go to step 11	Place the printer on a solid flat surface.
11	Make sure the ITU drive motor assembly cable is correctly installed to the ITU drive motor and at connector location J64 on the system board. Is the cable correctly installed?	Go to step 12	Install the cable correctly
12	Make sure the ITU Autoconnect Cable is installed correctly at connector location J72 on the system board. Is the cable correctly installed?	Go to step 13	Install the connector/cable correctly
13	Make sure the ITU Autoconnect connector in the printer is seated correctly in the connector plate. Is the connector seated correctly?	Replace the following FRUs in the following order: 1. **"ITU assembly" on page 4-44**. 2. **"System board" on page 4-72**.	Replace the ITU Autoconnect cable.

104 ITU Error

The ITU has an optical sensor that watches for a piece of reflective tape on the inside of the image belt. This tape is read every revolution of the belt. If a signal is not received from the belt sensor within a certain time period, the printer posts an error due to the loss of signal. There are several causes for the loss of signal. First, the belt has tracked too far to the front or rear of the printer. In this case, the belt is still turning, but the reflective tape is no longer passing within view of the belt sensor. This is considered a belt tracking error and is posted as a 104 ITU Error. The other causes of a signal loss could be a belt stall, meaning the belt is not turning, or a true signal loss, which would be due to a bad sensor, broken cable, loose connection, or bad system board. These other causes post as a 100 ITU Error.

To assist the printer in determining what is the cause of a signal loss, there is a buffer that records the belt position for the last 50 revolutions. If the printer loses the belt signal, it refers to the buffer. If the buffer shows significant mistracking before signal loss, it will post a 104 ITU Error. If the buffer shows that the belt has been tracking in the center before signal loss, it posts a 100 ITU Error. Due to memory restrictions, the buffer is not saved during POR. This means, if a printer posts a 104 ITU Error, so the belt is tracked off, and the customer or servicer turns off the printer to clear the error, when the printer starts up, it will still not see the belt signal and will now post a 100 ITU Error because the buffer is empty. When servicing a printer for a 100 ITU Error, it is important to view the error log. See **“Display Log” on page 3-35**. The error log can only be displayed at this point. Do not try to print the log. Look for past occurrences of 100 ITU Errors preceded by a 104 ITU Error.

Step	Action and questions	Yes	No
1	Make sure all packing material is removed from the printer. The Detensioner is located underneath the toner cartridges. Make sure the ITU Detensioner is removed. Remove the Detensioner by pulling up on the red handle on the right side of the ITU. **Note**: All the print cartridges must be removed to gain access to the Detensioner packing material. Has all packing material been removed from the printer?	Go to step 2	Remove any remaining packing material from the printer
2	Check the ITU Release Lever for correct operation. The ITU Release Lever is the black lever located on the left upper side frame above the ITU opening and can be seen by opening and lowering the MPF Assembly. When locked the lever should be at the 6 o'clock position. When unlocked it should be in a 3 o'clock position. Undue pressure is not required to operate the lever.  Does the ITU release lever operate correctly?	Go to step 3	Repair as necessary
3	Check the second transfer roll installation. Is it installed correctly?	Go to step 4	Reinstall the second transfer roll.

Step	Action and questions	Yes	No
4	Check the printer is setting on a solid, flat surface. Is the printer setting on a solid flat surface?	Go to step 5	Inform the customer that the printer must be setting on a solid flat surface.
5	The front contamination shield is attached to the front plate of the ITU frame and lies on the top of the ITU belt. Is the front contamination shield lying on the ITU belt.	Go to step 6	Position the shield on top of the belt.
6	Remove the ITU and check the ITU belt position. If the belt has shifted to the front or to the rear it should be replaced. The belt must not shift more than 4 mm in either direction. Check by making the measurements as shown. The lower limit is 3.1 mm, the high limit is 8.1 mm, and the optimum position is 5.6 mm.    Has the ITU Belt shifted to the front or to the rear?	Replace the **"ITU assembly" on page 4-44** and run the **"Belt Tracking (ITU 4th point adjustment)" on page 3-18**.	Treat as a belt stall or signal communications problem. See **"100 ITU Error" on page 2-41**.

120 error code

This error code displays whenever an incorrect hot roll fuser lamp is installed.

Step	Action and questions	Yes	No
1	Check to make sure that the line voltage to the printer matches the line voltage selection switch on the LVPS. Does the line voltage match the LVPS line voltage selection?	Go to step 2	Set the line voltage selection switch to match the line voltage to the printer.
2	Is the correct fuser assembly installed in the printer?	Go to step 3	Replace the **"Fuser assembly" on page 4-35** with the correct fuser assembly.
3	Check for continuity between pins 1 and 2 on the AC fuser connector on the fuser assembly Do you measure continuity?	Replace the **"LVPS assembly" on page 4-46**.	Replace the **"Fuser assembly" on page 4-35**.

121 error code

This error code displays whenever an incorrect fuser backup roll lamp is installed.

Step	Action and questions	Yes	No
1	Check to make sure that the line voltage to the printer matches the setting of the line voltage selection switch on the LVPS. Does the line voltage match the line voltage selection?	Go to step 2	Set the line voltage selection switch to match the line voltage to the printer.
2	Is the correct fuser assembly installed in the printer?	Go to step 3	Replace the **"Fuser assembly" on page 4-35** with the correct fuser assembly.
3	Check for continuity between pins 2 and 5 on the AC fuser connector on the fuser assembly.	Replace the **"LVPS assembly" on page 4-46**.	Replace the**"Fuser assembly" on page 4-35**.

122 error code

Cold fuser

If error code 122 displays, the printer has detected a problem in the fuser hot roll lamp circuity, back up roll fuser lamp circuits, fuser hot roll thermistor, back up roll thermistor, system board, or LVPS fuser control circuits.

Replace the following FRUs in the order shown:

1. **"Fuser assembly" on page 4-35**.
2. **"LVPS assembly" on page 4-46**.
3. **"System board" on page 4-72**.

123 error code

Cold fuser

If error code 123 is displays, the printer detects a problem in the fuser hot roll lamp circuits, back up roll fuser lamp circuits, fuser hot roll thermistor, back up roll thermistor, system board, or LVPS fuser control circuits.

Replace the FRUs in the following order.

1. **"Fuser assembly" on page 4-35**.
2. **"LVPS assembly" on page 4-46**.
3. **"System board" on page 4-72**.

124 error code

Hot fuser

Error code 124 displays whenever the printer detects a problem with the fuser running over temperature or the fuser lamps have been on too long. A problem could exist in the fuser assembly with the hot roll bearings, hot roll thermistor, or other hot roll parts. The LVPS or system board assembly can also be failing.

Step	Action and questions	Yes	No
1	Open the right fuser access door. Observe the fuser and see if the hot roll fuser lamp turns on and off. You may have to observe for a few minutes. Do the lamps turn off and on?	Go to step 2	Replace the **"LVPS assembly" on page 4-46**.
2	Turn the printer on and measure the voltage on connector J33-11 on the system board. The voltage should measure approximately +0.13 V dc to +0.64 V dc as the hot roll lamp turns on and off. Is the voltage correct?	Replace the**"Fuser assembly" on page 4-35**.	Replace the **"System board" on page 4-72**.

125 error code

Hot fuser

Error code 125 displays whenever the printer detects a problem with the fuser running over temperature or the fuser lamps have been on too long. A problem exists in the fuser assembly with the back up roll bearings, back up roll thermistor, LVPS, or system board.

Step	Action and questions	Yes	No
1	Open the right fuser access door. Observe the fusser and see if the backup roll fuser lamp turns on and off. You may have to observe for a few minutes. Does the lamp turn off and on?	Go to step 2	Replace the **"LVPS assembly" on page 4-46**.
2	Turn the printer on and measure the voltage on connector J33-12 on the system board. The voltage should measure approximately +0.13 V ac to +0.64 V ac as the backup roll lamp turns on and off. Is the voltage correct?	Replace the **"Fuser assembly" on page 4-35**.	Replace the **"System board" on page 4-72**.

126 error code

Hot roll thermistor or thermistor circuits are open

If error code 126 displays, the printer detects a problem in the fuser hot roll, back up roll lamp circuits, fuser hot roll thermistor, back up roll thermistor, system board, or LVPS fuser control circuits.

Step	Action and questions	Yes	No
1	Turn the printer on and allow it to reach the Ready prompt. **Note:** The printer may not complete POR and post a 126 Error message. Measure the voltage on connector J33-6 on the system board. The voltage should measure approximately +3.3 V dc. Is the voltage correct?	Go to step 2	Replace the **"System board" on page 4-72**.
2	Measure the voltage on the fuser DC control connector on the LVPS. Measure the voltage on pin 6 of the connector. Does the voltage measure approximately +3.3 V dc?	Replace the**"Fuser assembly" on page 4-35**.	Replace the **"LVPS assembly" on page 4-46**

127 error code

Backup roll thermistor or thermistor circuits are open

If error code 127 displays the printer detects a problem in the fuser hot roll or back up roll fuser lamp circuits, fuser hot roll thermistor, back up roll thermistor, system board, or LVPS fuser control circuits.

Step	Action and questions	Yes	No
1	Turn the printer on and allow it to reach the Ready prompt. **Note:** The printer may not complete POR and post a 127 Error message. Measure the voltage on connector J33-7 on the system board. The voltage should measure approximately +3.3 V dc. Is the voltage correct?	Go to step 2	Replace the **"System board" on page 4-72**.
2	Measure the voltage on the fuser DC control connector on the LVPS. Measure the voltage on pin 7 of the connector. Is the voltage measure approximately +3.3 V dc.	Replace the **"Fuser assembly" on page 4-35**.	Replace the **"LVPS assembly" on page 4-46**

128 error code

Fuser hot roll is under temperature during standby

Step	Action and questions	Yes	No
1	Turn the printer on and allow it to reach a Ready prompt. **Note:** The printer may not complete POR and continue to display the 128 Error message. Remove the fuser assembly from the printer. Measure the voltage on connector J33-6 on the system board. The voltage should measure approximately 3.3 V dc. Is the voltage correct?	Go to step 2	Replace the **"System board" on page 4-72**.
2	Measure the voltage on the fuser DC control connector on the LVPS. Measure the voltage on pin 6 of the connector. Does the voltage measure approximately +3.3 V dc.	Replace the**"Fuser assembly" on page 4-35**.	Replace the **"LVPS assembly" on page 4-46**.

129 error code

Fuser backup roll is under temperature during standby.

Step	Action and questions	Yes	No
1	Turn the printer on and allow it to reach a Ready prompt. **Note:** The printer may not complete POR and continues to display the 129 Error message. Remove the fuser assembly from the printer. Measure the voltage on connector J33-7 on the system board. The voltage should measure approximately +3.3 V dc. Is the voltage correct?	Go to step 2	Replace the **"System board" on page 4-72**.
2	Measure the voltage on the fuser DC control connector on the LVPS. Measure the voltage on pin 7 of the connector. Does the voltage measure approximately +3.3 V dc.	Replace the**"Fuser assembly" on page 4-35**.	Replace the **"LVPS assembly" on page 4-46**.

130 error code

Hot roll did not reach the correct standby temperature

This error displays when the fuser hot roll does not reach the correct standby temperature.

Step	Action and questions	Yes	No
1	Measure the voltage on connector J33-11 on the system board. The voltage measures approximately 0.13 V dc to 0.64 V dc as the hot roll lamp turns off and on. Is the voltage correct?	Replace the **"Fuser assembly" on page 4-35**.	Go to step 2
2	Remove the fuser from the printer. Check continuity of the hot roll lamp by measuring between pins 1 and 2 on the AC fuser connector on the fuser assembly. Is there continuity?	Go to step 4	Go to step 3
3	Check to make sure that the hot roll lamp is installed correctly. Is the hot roll lamp installed correctly?	Go to step 4	Install the lamp correctly. If this does not fix the problem, replace the **"Fuser assembly" on page 4-35**.
4	Reinstall the fuser assembly. Watch to see if the lamps turn on and off as the lamp heat up. Do the lamps turn on?	Go to step 5	Replace the **"LVPS assembly" on page 4-46**.
5	Turn the printer on and allow it to reach a Ready prompt. **Note:** The printer may not complete POR and continues to display the error code. Remove the fuser assembly from the printer. Measure the voltage on connector J33-6 on the system board. The voltage should measure approximately +3.3 V dc. Is the voltage correct?	Go to step 6	Replace the **"System board" on page 4-72**.
6	Measure the voltage on the fuser DC control connector on the LVPS. Measure the voltage on pin 6 of the connector. Does the voltage measure approximately +3.3 V dc?	Replace the **"Fuser assembly" on page 4-35**.	Replace the **"LVPS assembly" on page 4-46**.

131 error code

Backup roll did not reach the correct standby temperature

Step	Action and questions	Yes	No
1	Measure the voltage on connector J33-12 on the system board. The voltage measures approximately 0.14 V dc to 0.64 V dc as the back up roll lamp turns off and on. Is the voltage correct?	Go to step 2	Replace the **"Fuser assembly" on page 4-35**
2	Remove the fuser from the printer. Check continuity of the backup roll lamp by measuring between pins 5 and 2 on the AC fuser connector on the fuser assembly. Is there continuity?	Go to step 4	Go to step 3
3	Check to make sure that the backup roll lamp is installed correctly. Is the hot roll lamp installed correctly?	Go to step 4	Install the lamp correctly. If this does not fix the problem, replace the **"Fuser assembly" on page 4-35**.
4	Reinstall the fuser assembly. Watch to see if the lamps turn on and off as the lamp heat up. Do the lamps turn on?	Go to step 5	Replace the **"LVPS assembly" on page 4-46**.
5	Turn the printer on and allow it to reach a Ready prompt. **Note:** The printer may not complete POR and continues to display the error code. Remove the fuser assembly from the printer. Measure the voltage on connector J33-7 on the system board. The voltage should measure approximately +3.3 V dc. Is the voltage correct?	Go to step 6	Replace the **"System board" on page 4-72**.
6	Measure the voltage on the fuser DC control connector on the LVPS. Measure the voltage on pin 7 of the connector. Does the voltage measure approximately +3.3 V dc?	Replace the **"Fuser assembly" on page 4-35**.	Replace the **"LVPS assembly" on page 4-46**.

132 error code

Cold hot roll

Step	Action and questions	Yes	No
1	Measure the voltage on connector J33-11 on the system board. The voltage should measure approximately +0.13 V dc to +0.64 V dc as the hot roll lamp turns off and on. Is the voltage correct?	Go to step 2	Replace the **"System board" on page 4-72**
2	Remove the fuser from the printer. Check continuity of the hot roll lamp by measuring between pins 1 and 2 on the AC fuser connector on the fuser assembly. Is there continuity?	Go to step 4	Go to step 3
3	Check to make sure the hot roll lamp is installed correctly. Is the hot roll lamp installed correctly?	Go to step 4	Install the lamp correctly. If this does not fix the problem, replace the **"Fuser assembly" on page 4-35**.
4	Reinstall the fuser assembly. Watch to see if the lamps turn on and off as the lamp heats up. Do the lamps turn on?	Go to step 5	Replace the **"Fuser assembly" on page 4-35**
5	Turn the printer on and allow it to reach a Ready prompt. **Note:** The printer may not complete POR and may continue to display the error code. Remove the fuser from the printer. Measure the voltage on connector J33-6 on the system board. The voltage should measure approximately 3.3 V dc. Is the voltage correct?	Go to step 6	Replace the **"System board" on page 4-72**.
6	Measure the voltage on the fuser DC control connector on the LVPS. Measure the voltage on pin 6 of the connect. Does the voltage measure approximately +3.3 V dc?	Replace the **"Fuser assembly" on page 4-35**.	Replace the **"LVPS assembly" on page 4-46**.

133 error code

Cold backup roll

Step	Action and questions	Yes	No
1	Measure the voltage on connector J33-12 on the system board. The voltage should measure approximately +0.13 V dc to +0.64 V dc as the backup roll lamp turns off and on. Is the voltage correct?	Go to step 2	Replace the **"System board" on page 4-72**.
2	Remove the fuser from the printer Check continuity of the backup roll by measuring between pins 1 and 5 on the AC fuser connector on the fuser assembly. Is there continuity?	Go to step 4	Go to step 3
3	Check to make sure that the backup roll lamp is installed correctly. Is the backup roll lamp installed correctly?	Go to step 4	Install the lamp correctly. If this does not fix the problem, replace the **"Fuser assembly" on page 4-35**.
4	Reinstall the fuser assembly. Watch to see if the lamps turn on and off as the lamp heats up. Do the lamps turn on?	Go to step 5	Replace the **"LVPS assembly" on page 4-46**.
5	Turn the printer on and allow it to reach a Ready prompt. **Note:** The printer may not complete POR and continues to display the error code. Remove the fuser assembly from the printer. Measure the voltage on connector J33-7 on the system board. The voltage should measure approximately +3.3 V dc. Is the voltage correct?	Go to step 6	Replace the **"System board" on page 4-72**.
6	Measure the voltage on the fuser DC control connector on the LVPS. Measure the voltage on pin 7 of the connector. Does the voltage measure approximately +3.3 V dc.	Replace the **"Fuser assembly" on page 4-35**.	Replace the **"LVPS assembly" on page 4-46**.

134 error code

Hot fuser

Error code 134 indicates that the fuser is running over temperature or the hot roll fuser lamp has been on too long. Error code 134 may also indicate a problem in the fuser assembly with the hot roll bearings, hot roll thermistor, LVPS, or the system board.

Step	Action and questions	Yes	No
1	Turn the printer on. Open the right side fuser access door. Observe the hot roll lamp to see if it turns on and off. You may have to observe the lamp for a few minutes to see if it turns on and off. Does the lamp turn on and off?	Go to step 2	Replace the **"LVPS assembly" on page 4-46**.
2	Turn the printer on and measure the voltage on connector J33-11 on the system board. The voltage should measure approximately +0.13 V dc and +0.64 V dc as the hot roll lamp turns on and off. Is the voltage correct?	Replace the **"Fuser assembly" on page 4-35**.	Replace the **"System board" on page 4-72**.

135 error code

Error code 135 indicates that a problem exists in the fuser assembly with the backup roll bearings, backup roll thermistor, LVPS, or system board.

Step	Action and questions	Yes	No
1	Power on the printer. Open the right side of the fuser access door. Observe the hot roll lamp to see if it turns on and off. You may have to observe the lamp for a few minutes to see it turn on and off. Does the lamp turn on and off?	Go to step 2	Replace the **"LVPS assembly" on page 4-46**.
2	Turn the printer on and measure the voltage on connector J33-12 on the system board. The voltage should measure approximately +0.13 V dc to +0.64 V dc as the hot roll lamp turns on and off. Is the voltage correct?	Replace the **"Fuser assembly" on page 4-35**.	Replace the **"System board" on page 4-72**.

136 error code

Fuser assembly cam position is not found.

Step	Action and questions	Yes	No
1	Observe the fuser drive assembly gears rotate during POR. Do the gears rotate?	Go to step 2	Go to step 5

Step	Action and questions	Yes	No
2	Do the gears stop and the fuser drive assembly gears make a loud buzzing sound?	Replace the FRUs in the order shown: 1. Fuser drive card. See **"Fuser drive card assembly" on page 4-37**. 2. Fuser drive assembly. See **"Fuser drive assembly" on page 4-37**. 3. **"Fuser assembly" on page 4-35**.	Go to step 3
3	Check for correct installation of the fuser control cable to J33 on the system board. Make sure the cable is properly connected. Is the cable installed correctly?	Go to step 4	Install the cable correctly.
4	Remove the fuser from the printer. Measure the voltage at the DC fuser control connector on the LVPS on pin 2 and 9 on the connector. The voltage should measure approximately +5 V dc. Is the voltage correct?	Replace the**"Fuser assembly" on page 4-35**.	Replace the **"LVPS assembly" on page 4-46**.
5	Check for correct installation of the fuser drive motor cable to connector J29 on the system board. Is the cable installed correctly?	Go to step 6	Install the cable correctly.
6	Remove the fuser fan to gain access to the motor cable. Check the correct installation of the fuser drive motor cable to connector J1 on the fuser drive motor board. Is the cable installed correctly?	Replace the following FRUs in the order shown: 1. Fuser drive card. See **"Fuser drive card assembly" on page 4-37**. 2. Fuser drive assembly. See **"Fuser drive assembly" on page 4-37**. 3. System board. See **"System board" on page 4-72**.	Install the cable correctly.

148 error code

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Connector J30 on the system board - Check for correct installation of the ITU drive motor cable from the ITU drive motor to the system board connector J30.
Is the cable connected correctly?</td><td>Go to step 2</td><td>Install the cable correctly</td></tr>
<tr><td>2</td><td>ITU drive motor - Check for continuity between pin 4 of CON1 on the motor drive card and the remaining pins in the connector.
Do you measure continuity?
Note: The ITU drive motor can be removed from the printer without removing the complete ITU drive motor assembly. If the ITU drive motor assembly is removed be careful not to spill toner that may be contained in the auger system.</td><td>Replace the drive motor</td><td>Go to step 3</td></tr>
<tr><td>3</td><td>ITU drive motor cable - Check the continuity of the ITU drive motor cable.
Do you measure continuity?</td><td>Go to step 4</td><td>Replace the ITU drive motor cable</td></tr>
<tr><td>4</td><td>ITU drive motor voltage check - Measure the voltage on connector J30 on the system board. The voltages are approximately values.
Voltages with motor not running
<table><tr><th>Connector pin</th><th>Voltages (motor not running)</th></tr><tr><td>J30-2</td><td>+4.2 V dc</td></tr><tr><td>J30-4</td><td>+5.0 V dc</td></tr><tr><td>J30-6</td><td>+3.3 V dc</td></tr><tr><td>J30-8</td><td>+24 V dc</td></tr><tr><td>J30-10</td><td>Ground</td></tr><tr><td>J30-12</td><td>0 V dc</td></tr><tr><td>J30-14</td><td>+3.3 V dc</td></tr></table>Are the voltages correct?</td><td>Replace the drive motor</td><td>Go to step 5</td></tr>
<tr><td>5</td><td>ITU motor drive assembly - Remove the ITU assembly. Manually turn the motor. The gears in the ITU motor assembly, the second transfer roll gears, and the cleaner gear should turn freely.
Do the gears turn freely?</td><td>Replace the system board. If this does not fix the problem, replace the ITU drive motor.</td><td>Go to step 6</td></tr>
<tr><td>6</td><td>ITU motor drive assembly - Remove the ITU drive motor assembly. Manually turn the motor.
Do the gears on the ITU drive motor assembly turn freely?</td><td>Contact your next level support</td><td>Replace the ITU motor drive assembly</td></tr>
</table>

150 error code

Black cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	Indicates the black cartridge drive motor has either failed to lock or has lost lock. Check the black cartridge drive motor cable connection to J30 on the system board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	Check the black cartridge drive motor cable connection to the black cartridge drive motor card. Is the cable installed correctly?	Go to step 3	Install the cable correctly
3	Check continuity of the black cartridge drive motor cable. Is there continuity?	Go to step 4	Replace the black cartridge assembly cable
4	Replace the black cartridge drive assembly. Perform **"Motor Detect" on page 3-17**. Does this fix the problem?	Problem solved	Go to step 5
5	Replace the system board. Does this fix the problem?	Problem solved	Call your next level support

151 error code

Magenta cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	Indicates that the magenta cartridge drive motor has either failed to lock or has lost lock. Check the magenta cartridge drive motor cable connection to J34 on the system board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	Check the magenta cartridge drive motor cable connection to the magenta cartridge drive motor card. Is the cable installed correctly?	Go to step 3	Install the cable correctly
3	Check continuity of the magenta cartridge drive motor cable. Is there continuity?	Go to step 4	Replace the magenta cartridge assembly cable
4	Replace the magenta cartridge drive assembly. Perform **"Motor Detect" on page 3-17**. Does this fix the problem?	Problem solved	Go to step 5
5	Replace the system board. Does this fix the problem?	Problem solved	Call your next level support

152 error code

Cyan cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	Indicates that the cyan cartridge drive motor has either failed to lock or has lost lock. Check the cyan cartridge drive motor cable connection to J34 on the system board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	Check the cyan cartridge drive motor cable connection to the cyan cartridge drive motor card. Is the cable installed correctly?	Go to step 3	Install the cable correctly
3	Check continuity of the cyan cartridge drive motor cable. Is there continuity?	Go to step 4	Replace the cyan cartridge assembly cable
4	Replace the cyan cartridge drive assembly. Perform **"Motor Detect" on page 3-17**. Does this fix the problem?	Problem solved	Go to step 5

Step	Actions and questions	Yes	No
5	Replace the system board. Does this fix the problem?	Problem solved	Call your next level support

153 error code

Yellow cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	Indicates that the yellow cartridge drive motor has either failed to lock or has lost lock. Check the yellow cartridge drive motor cable connection to J29 on the system board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	Check the yellow cartridge drive motor Cable connection to the yellow cartridge drive motor card. Is the cable installed correctly?	Go to step 3	Install the cable correctly
3	Check continuity of the yellow cartridge drive motor cable. Is there continuity?	Go to step 4	Replace the yellow cartridge assembly cable
4	Replace the yellow cartridge drive assembly. Perform **"Motor Detect" on page 3-17**. Does this fix the problem?	Problem solved	Go to step 5
5	Replace the system board. Does this fix the problem?	Problem solved	Call your next level support

154 error code

ITU belt motor

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Connector J30 on the system board - Check for correct installation of the ITU drive motor cable from the ITU drive motor to the system board connector J30.
Is the cable connected correctly?</td><td>Go to step 2</td><td>Install the cable correctly</td></tr>
<tr><td>2</td><td>ITU drive motor - Check for continuity between pin 4 of CON1 on the motor drive card and the remaining pins in the connector.
Do you measure continuity?
Note: The ITU drive motor can be removed from the printer without removing the complete ITU drive motor assembly. If the ITU drive motor assembly is removed be careful not to spill toner that may be contained in the auger system.</td><td>Replace the drive motor</td><td>Go to step 3</td></tr>
<tr><td>3</td><td>ITU drive motor cable - Check the continuity of the ITU drive motor cable.
Do you measure continuity?</td><td>Go to step 4</td><td>Replace the ITU drive motor cable</td></tr>
<tr><td>4</td><td>ITU drive motor voltage check - Measure the voltage on connector J30 on the system board. The voltages are approximately values.
Voltages with motor not running
<table>
<tr><th>Connector pin</th><th>Voltages (motor not running)</th></tr>
<tr><td>J30-2</td><td>+4.2 V dc</td></tr>
<tr><td>J30-4</td><td>+5.0 V dc</td></tr>
<tr><td>J30-6</td><td>+3.3 V dc</td></tr>
<tr><td>J30-8</td><td>+24 V dc</td></tr>
<tr><td>J30-10</td><td>Ground</td></tr>
<tr><td>J30-12</td><td>0 V dc</td></tr>
<tr><td>J30-14</td><td>+3.3 V dc</td></tr>
</table>
Are the voltages correct?</td><td>Replace the drive motor</td><td>Go to step 5</td></tr>
<tr><td>5</td><td>ITU motor drive assembly - Remove the ITU assembly. Manually turn the motor. The gears in the ITU motor assembly, the second transfer roll gears, and the cleaner gear should turn freely.
Do the gears turn freely?</td><td>Replace the system board. If this does not fix the problem, replace the ITU drive motor.</td><td>Go to step 6</td></tr>
<tr><td>6</td><td>ITU motor drive assembly - Remove the ITU drive motor assembly. Manually turn the motor.
Do the gears on the ITU drive motor assembly turn freely?</td><td>Contact your next level support</td><td>Replace the ITU motor drive assembly</td></tr>
</table>

156 error code

Black cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	Error code 156 - The black cartridge drive motor has either failed to lock or has lost lock. Check the black cartridge drive motor cable connection to J30 on the system board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	Check the black cartridge drive motor cable connection to the black cartridge drive motor card. Is the cable installed correctly?	Go to step 3	Install the cable correctly
3	Check continuity of the black cartridge drive motor cable. Is there continuity?	Go to step 4	Replace the black cartridge assembly cable
4	Replace the black cartridge drive assembly. Perform **"Motor Detect" on page 3-17**. Does this fix the problem?	Problem solved	Go to step 5
5	Replace the system board. Does this fix the problem?	Problem solved	Call your next level support

157 error code

Magenta cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	The magenta cartridge drive motor has either failed to lock or has lost lock. Check the magenta cartridge drive motor cable connection to J34 on the system board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	Check the magenta cartridge drive motor cable connection to the magenta cartridge drive motor card. Is the cable installed correctly?	Go to step 3	Install the cable correctly
3	Check continuity of the magenta cartridge drive motor cable. Is there continuity?	Go to step 4	Replace the magenta cartridge assembly cable
4	Replace the magenta cartridge drive assembly. Perform **"Motor Detect" on page 3-17**. Does this fix the problem?	Problem solved	Go to step 5
5	Replace the system board. Does this fix the problem?	Problem solved	Call your next level support

158 error code

Cyan cartridge drive assembly

Step	Actions and questions	Yes	No
1	Error code 158 - The cyan cartridge drive motor has either failed to lock or has lost lock. Check the cyan cartridge drive motor cable connection to J34 on the system board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	Check the cyan cartridge drive motor cable connection to the cyan cartridge drive motor card. Is the cable installed correctly?	Go go step 3	Install the cable correctly
3	Check continuity of the cyan cartridge drive motor cable. Is there continuity?	Go to step 4	Replace the cyan cartridge assembly cable
4	Replace the cyan cartridge drive assembly. Perform **"Motor Detect" on page 3-17**. Does this fix the problem?	Problem solved	Go to step 5
5	Replace the system board. Does this fix the problem?	Problem solved	Call your next level support

159 error code

Yellow cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	The yellow cartridge drive motor has either failed to lock or has lost lock. Check the yellow cartridge drive motor cable connection to J29 on the system board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	Check the yellow cartridge drive motor cable connection to the yellow cartridge drive motor card. Is the cable installed correctly?	Go to step 3	Install the cable correctly
3	Check continuity of the yellow cartridge drive motor cable. Is there continuity?	Go to step 4	Replace the yellow cartridge assembly cable
4	Replace the yellow cartridge drive assembly. Perform **"Motor Detect" on page 3-17**. Does this fix the problem?	Problem solved	Go to step 5
5	Replace the system board. Does this fix the problem?	Problem solved	Call your next level support

160 error code

ITU drive motor service check

Step	Action and questions	Yes	No
1	Error code 160 indicates that an incorrect motor has been detected. Replace the **"ITU drive motor" on page 4-45**. **Note**: Anytime the ITU drive motor or ITU drive motor assembly is replaced, perform the **"Motor Detect" on page 3-17**. Is error code 160 still shown?	Call your next level support	Problem solved

162 error code

Black cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	Black cartridge drive assembly - Error code 162 indicates that an incorrect motor is detected. Replace the black cartridge drive assembly. Go to **"Cartridge drive assembly" on page 4-30**. Perform **"Motor Detect" on page 3-17**. Does the printer display error code 162?	Go to step 2	Problem solved
2	Reflash the NVRAM. Does error code 162 continue?	Call your next level support	Problem solved

163 error code

Magenta cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	Magenta cartridge drive assembly - Error code 163 indicates that an incorrect motor is detected. Replace the magenta cartridge drive assembly. Go to **"Cartridge drive assembly" on page 4-30**. Perform **"Motor Detect" on page 3-17**. Does the printer display error code 163?	Go to step 2	Problem solved
2	Reflash the NVRAM. Does error code 163 continue?	Call your next level support	Problem solved

164 error code

Cyan cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	Cyan cartridge drive assembly - Error code 164 indicates that an incorrect motor is detected. Replace the cyan cartridge drive assembly. Go to **"Cartridge drive assembly" on page 4-30**. Perform the **"Motor Detect" on page 3-17**. Does the printer display error code 164?	Go to step 2	Problem solved
2	Reflash the NVRAM. Does error code 164 continue?	Call your next level support	Problem solved

165 error code

Yellow cartridge drive assembly

Note: Any time any of the cartridge drive motor assemblies are replaced perform the **"Motor Detect" on page 3-17**. If this procedure is not performed, error code 168 is displayed.

Step	Actions and questions	Yes	No
1	Yellow cartridge drive assembly - Error code 165 indicates that an incorrect motor is detected. Replace the yellow cartridge drive assembly. Go to **"Cartridge drive assembly" on page 4-30**. Perform the **"Motor Detect" on page 3-17**. Does the printer display error code 165?	Go to step 2	Problem solved
2	Reflash the NVRAM. Does error code 165 continue?	Call your next level support	Problem solved

200 Paper Jam—Tray 1

1. Obtain the sub error code from the operator panel.
   Press and hold **Return** and press **Select** to view the sub error code.
2. Compare the sub error code to the list below and go to the appropriate service check.

Sub error code	Service check
2D 1B 2D 1C	**“S2 or narrow media sensor obstructed” on page 2-66**
2D 11 2D 03	**“S2 sensor late” on page 2-67**
2D 0F 2D 02 2D 05	**“S2 or narrow media sensor made early” on page 2-67**
2D 04 2D 06	**“S2 or narrow media sensor did not break in time” on page 2-68**

S2 or narrow media sensor obstructed

- 2D 1B—S2 sensor obstructed
- 2D 1C—Narrow media sensor obstructed

Note: See **“Printer sensors” on page 5-3**.

Step	Action and questions	Yes	No
1	Is sensor flag obstructed by paper debris, out of position, or broken?	Clear obstruction and reinstall or replace flag.	Go to step 2
2	Perform the **“BASE SENSOR TEST” on page 3-30**. Do both sensor pass the test?	Problem solved	Go to step 3
3	Is the inner deflector out of place, causing sensor flag to bind?	Install inner deflector properly.	Go to step 4
4	Are the sensors connectors fully seated?	Go to step 5	Reseat the sensor connector.
5	Are connectors at J21 fully seated on the system board?	Go to step 6	Reseat the connector on the system board.
6	Check sensor cables. Are the cables cut or broken?	Replace the cables.	Go to step 7
7	Replace the sensor that did not pass the test. Is the problem solved?		Replace the **“System board” on page 4-72**.

S2 sensor late

- 2D 11—S2 sensor late
- 2D 03—S2 sensor late

Note: See **"Printer sensors" on page 5-3**.

Step	Action and questions	Yes	No
1	Check the tray for proper edge guide setting and media loading. Edge guides should be adjusted against edge of media. Media should be fanned and lay flat in the tray. Is the media properly loaded in the tray?	Go to step 2	Properly load media.
2	Check the pick tires for contamination or wear. Are pick tires worn or contaminated?	Replace the **"Pick rolls" on page 4-59**.	Go to step 3
3	Check for obstructions in the paper path. Is the paper path obstructed?	Clear the obstruction.	Go to step 4
4	Is the inner deflector out of position?	Correct the deflector position.	Go to step 5
5	Is the autocompensator damaged or defective?	Go to **"Autocompensator service check" on page 2-107**	Go to step 6
6	Perform the **"BASE SENSOR TEST" on page 3-30** on the S2 sensor. Does the S2 sensor pass the test?	Call your next level of support.	See **"S2 or narrow media sensor obstructed" on page 2-66**.

S2 or narrow media sensor made early

- 2D 0F—S2 sensor early
- 2D 02—S2 sensor early
- 2D 05—Narrow media sensor early

Note: See **"Printer sensors" on page 5-3**.

Step	Action and questions	Yes	No
1	Check tray for the edge guide setting and media loading. Edge guides should be adjusted against edge of media. Media should be fanned and lay flat in the tray. Is the media properly loaded in the tray?	Go to step 2	Properly load media.
2	Media may not have been cleared from a previous jam. Is media in paper path?	Clear the paper path.	Call your next level of support

S2 or narrow media sensor did not break in time

- 2D 04—S2 sensor did not break in time
- 2D 06—Narrow media sensor did not break in time

Note: See **“Printer sensors” on page 5-3**.

Step	Action and questions	Yes	No
1	Make sure the media installed in the tray meets specifications. Does the media meet specifications?	Go to step 2	Inform the customer that media loaded in Tray *x* does not meet specification
2	Check tray for the edge guide setting and media loading. Edge guides should be adjusted against edge of media. Media should be fanned and lay flat in the tray. Is the media properly loaded in the tray?	Go to step 3	Properly load media.
3	Remove the ITU and check for the jam at the second transfer roll. Is paper jammed at the second transfer roll?	Clear the jam.	Call your next level of support.

200 Paper Jam—Options and multipurpose feeder

500-sheet option or envelope option

Step	Action and questions	Yes	No
1	Does media feed correctly from Tray 1?	Go to step 2	Go to **“200 Paper Jam—Tray 1” on page 2-66**
2	Check the tray 2 for proper media loading. Media should be fanned before loading and must lay flat in the tray. Is the media loaded properly?	Go to step 3	Load media properly.
3	Check tray 1 pass through for damage or obstructions. **Note:** Remove the paper drawer to inspect tray 1 pass through. Is the pass through damaged or obstructed?	Remove obstruction or replace damaged parts.	Go to step 4
4	Remove duplex and check the pass through. • Check the alignment pin on top of the 500-sheet option • Check the pass through roller drive system on top of tray 2 • Check the pass through the roller drive system on the bottom of the duplex option.		Replace the duplex option or 500-sheet option as needed.

Multipurpose feeder

Step	Action and questions	Yes	No
1	Does the media feed correctly from tray 1?	Go to step 2	Go to **"200 Paper Jam—Tray 1" on page 2-66**.
2	Verify that the media is loaded properly in the multipurpose feeder. Is the media properly loaded?	Replace the **"Friction buckler" on page 4-33**.	Properly load the media.

Duplex option

Step	Action and questions	Yes	No
1	Does the media feed correctly from tray 1?	Go to step 2	Go to **"200 Paper Jam—Tray 1" on page 2-66**.
2	Does the media feed correctly from the 500-sheet options, if installed?	Go to step 3	Go to **"500-sheet option or envelope option" on page 2-68**
3	Check tray 1 pass through for damage or obstruction. Is the pass through obstructed or damaged?	Clear the obstruction.	Replace the duplex option.

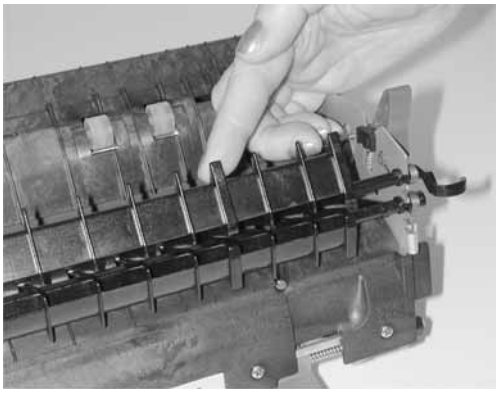
High-capacity input tray (HCIT)

Step	Action and questions	Yes	No
1	Make sure the media installed in the tray meets specifications. **Note:** The HCIT only supports paper. Does the media meet specifications?	Go to step 2	Inform customer that media does not meet specifications.
2	Does the media feed correctly from tray 1?	Go to step 3	Go to **"200 Paper Jam—Tray 1" on page 2-66**.
3	Does the media feed correctly from the 500-sheet options, if installed?	Go to step 4	Go to **"500-sheet option or envelope option" on page 2-68**
4	Check the pass through in 500-sheet option for damage or obstruction, if installed. Is the pass through obstructed or damaged?	Clear the obstruction.	Replace the HCIT.

201 Paper Jam

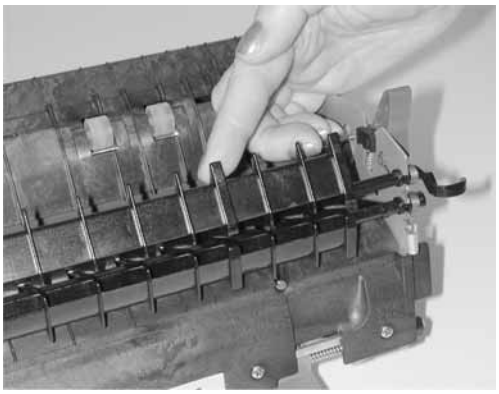
Step	Action and questions	Yes	No
1	Remove fuser from printer, remove oiler housing from fuser, and pivot the paper guide up. Is paper jammed inside the fuser?	Clear the jam.	Go to step 2
2	Check fuser entry guide for toner buildup. Is toner built up on the fuser entry guide?	Replace the **"Fuser assembly" on page A-35**.	Go to step 3
3	Check fuser exit sensor flag. Does the flag rotate freely and return to normal position when released?	Go to step 4	Replace the **"Fuser assembly" on page A-35**.
4	Reinstall fuser and perform the **"BASE SENSOR TEST" on page 3-30**. **Note:** Use a spring hook to actuate the flag. Does fuser exit sensor pass test?	Go to step 5	Perform the following in order: 1. Reseat the connector J33 on the system board. 2. Replace the **"Fuser assembly" on page 4-35**. 3. Replace the **"LVPS assembly" on page 4-46**. 4. Replace the **"System board" on page 4-72**.
5	Check the vacuum transport belts (VTB) for motion. Observe the belt through the front door. Are the belts on the VTB assembly turning?	Go to step 6	Go to **"Vacuum transport belt (VTB)" on page 4-77** to verify correct installation.
6	Check the VTBs for wear or damage. Are the belts worn or damaged?	Replace the **"Vacuum transport belt (VTB)" on page 4-77**.	Go to step 7.
7	Check the VTB plate for a buildup of debris. Is there a debris buildup?	Clean off the VTB plate.	Go to step 8
8	Does media move smoothly into the fuser from the VTB?	Call the next level of support.	Replace the **"Vacuum transport belt (VTB) fan" on page 4-79**.

202 Paper Jam

Step	Action and questions	Yes	No
1	Remove the fuser from the printer. Remove the oiler housing from the fuser, and pivot the paper guide up. Is media jammed inside the fuser?	Clear the jam from the fuser.	Go to step 2
2	Check fuser exit sensor flag. Does flag rotate freely and return to normal position when released?	Go to step 4	Replace the **"Fuser assembly" on page 4-35**.
3	Check that the diverter gates in the fuser rotate freely.  Do the diverter gates rotate freely?	Go to step 4	Replace the **"Fuser assembly" on page 4-35**.
4	Reinstall the fuser and perform the **"BASE SENSOR TEST" on page 3-30** for the fuser exit sensor. **Note:** Use a spring hook to actuate the flag. Does the fuser exit sensor pass?	Got to step 5	Perform the following in order: 1. Reseat the connector J33 on the system board. 2. Replace the **"Fuser assembly" on page 4-35**. 3. Replace the **"LVPS assembly" on page 4-46**. 4. Replace the **"System board" on page 4-72**.
5	Check that the duplex diverter rotates freely with the redrive door closed. Does the duplex diverter rotate freely?	Go to step 6	Replace the **"Redrive door" on page 4-19**.
6	Check for the proper operation of the redrive. Are both belts in good condition and properly installed?	Go to step 7	Install or replace the **"Redrive assembly" on page 4-68**.

Step	Action and questions	Yes	No
7	If the duplex option is in use, check the lower right door paper path. Does media pass freely between the door and the metal plate?	Go to step 8	Replace the **"Lower right door assembly" on page 4-18**.
8	If the duplex option is in use, remove the duplex R.H. access panel to check if the jam occurred at duplex entry edge guide. Did the jam occur at the duplex entry edge guide?	Replace the duplex option.	Go to step 9
9	If the duplex option is in use, check the actuator button. See **"Duplex option deflector button replacement" on page A-14**. Should the actuator button be replaced?	Replace the button.	Go to step 10
10	If the finisher option is in use, refer to the finisher manual for the alignment procedure. Is the finisher properly aligned?	Go to step 11	Realign the finisher.
11	Is a 5-bin mailbox option or an output expander option in use?	Check the following: • Reseat the option on the printer. • Verify the top cover is properly seated on developer HVPS.	Call your next level of support.

230 Paper Jam

Step	Action and questions	Yes	No
1	Thoroughly examine the duplex paper path for torn paper that may be blocking the sensors or paper path. Is the duplex paper path clear?	Go to step 2	Clear the paper path.
2	Check the lower right door paper path. Does media pass freely between the door and the metal plate?	Go to step 3	Replace the **"Lower right door assembly" on page 4-18**.
3	Are any of the following conditions true? • Only the back of the page of a duplex job prints and exits into the standard bin. • Media exits the right side of the print. • Media jams in the duplex at the diverter.	Go to step 4	Go to step 8
4	Open the redrive door and check that the diverter operates freely.  Does the diverter operate freely?	Go to step 5	Replace the **"Fuser assembly" on page 4-35**.
5	Close the redrive door and check that the diverter operates freely. Does the diverter operate freely?	Go to step 6	Replace the **"Redrive door" on page 4-19**.
6	Check that the diverter actuator link is not binding or damaged. Examine the link for damage under the duplex option. Is link binding or damaged?	Repair the actuator link.	Go to step 7
7	Check the duplex actuator button. See **"Duplex option deflector button replacement" on page A-14**. Should the button be replaced?	Replace the Actuator button.	Go to step 8
8	Check for the correct sensor operation by performing the **"Duplex Sensor Test" on page 3-24**.	Replace the duplex option.	Go to step 9
9	Make sure the sensors are correctly connected to the duplex system board. Are the cables correctly connected?	Replace the duplex option.	Correctly connect the cables.

24x Paper jam

500-sheet drawer option

Media does not reach the pass thru sensor

Step	Action and questions	Yes	No
1	Is Tray *x* a HCIT 2000-sheet option?	Go to **"HCIT" on page 2-75**	Go to step 2
2	Make sure the media installed in the tray meets specifications. Does the media meet specifications?	Go to step 3	Inform the customer that media loaded in Tray *x* does not meet specification
3	Make sure the media is loaded correctly. Make sure the side and back restraints are located and seated properly. Is the media loaded correctly?	Go to step 4	Load the media correctly
4	See if the paper is trying to feed from the tray. **Note**: You can observe the autocompensator feed rolls and the paper through the tray access door. Run the Tray *x* feed test from the Diagnostics Menu to help diagnose a feed problem. See **"Feed Test" on page 3-25**. Is the media leaving the tray?	Go to step 8	Go to step 5
5	Are both of the autocompensator pick rolls installed and turning?	Go to step 6	Go to step 9
6	Check the autocompensator pick rolls for wear or contamination. Are the autocompensator pick rolls worn or contaminated?	Replace the pick arm rolls. Replace both rolls at the same time.	Go to step 7
7	Check the pass thru sensor for correct operation by running the Tray *x* sensor test from the Diagnostics Menu. See **"Sensor Test" on page 3-25**. Does the pass thru sensor operate correctly?	Check for any obstructions that might catch the media and create a paper jam	Go to step 8
8	Make sure the pass thru sensor is correctly connected to the Tray *x* system board. Is the sensor cable connected correctly?	Replace the FRUs in the following order: 1. Pass thru sensor assembly 2. Electronics/ size sensing assembly with system board.	Install the cable correctly

Step	Action and questions	Yes	No
9	Check the autocompensator cable for correct installation to Tray *x* system board. Is the cable connected correctly?	Replace the option or replace the following parts in the order until the error is cleared: • **"Autocompensator pick assembly" on page 4-20** • Tray *x* system board.	Install the cable correctly

HCIT

Use the **"HCIT standalone test mode" on page 3-36** inside the HCIT to help isolate paper jams. Run the Standalone Feeding Operation Test to observe paper feeding from the tray and through the feed assembly. Use the **"HCIT system board LED error code table" on page 2-121** to further isolate paper jam or sensor problems.

Before proceeding with this service check, make sure the HCIT is installed correctly.

Step	Action and questions	Yes	No
1	Check for pieces of paper or other obstructions in the feed assembly. Are any pieces of paper or obstructions in the feed assembly?	Remove any paper or obstructions	Go to step 2
2	Make sure the media loaded in the paper tray meets printer supplies specifications and the media is loaded correctly. Make sure the side and back restraints are located and seated properly. Does the media meet specifications?	Go to step 3	Inform the customer that media in the paper tray does not meet specifications
3	Use the Standalone Feeding Operation Test to observe paper feeding from the tray. Does the paper feed from the paper tray?	Go to step 14	Go to step 4
4	Using the Standalone Feeding Operation Test, observe the registration motor (the registration motor is the motor at the top of the feed assembly). Does the motor turn?	Go to step 5	Go to step 6
5	Does the pick motor, the lower motor in the feed unit assembly, turn?	Go to step 8	Go to step 7
6	Check the registration motor cable to HCIT system board cable connected to CN3 for correct installation. Is the cable connected correctly?	Replace the following FRUs in the order shown: 1. HCIT system board 2. Feed unit assembly	Install the cable correctly

Step	Action and questions	Yes	No
7	Check the pick motor cable to HCIT system board cable connected to CN4 for correct installation. Is the cable connected correctly?	Replace the following FRUs in the order shown: 1. HCIT system board 2. Feed unit assembly	Install the cable correctly
8	Use the **"HCIT system board LED error code table" on page 2-121**. Does the LED flash 7 times?	Go to step 9	Go to step 11
9	Make sure the registration home sensor cable is installed correctly to the sensor and to CN6 on the system board. Is the cable connected correctly?	Go to step 10	Install the cable correctly
10	Is the registration home sensor operating correctly?	Replace the following FRUs in the order shown: 1. HCIT system board 2. Feed unit assembly	Replace the following FRUs in the order shown: 1. Registration sensor 2. HCIT system board
11	Use the **"HCIT system board LED error code table" on page 2-121**. Does the LED flash 8 times?	Go to step 12	Go to step 14
12	Make sure the pick home sensor cable is installed correctly to the sensor and to CN6 on the system board. Is the cable connected correctly?	Go to step 13	Install the cable correctly
13	Is the registration home sensor operating correctly?	Replace the following FRUs in the order shown: 1. HCIT system board 2. Feed unit assembly	Replace the following FRUs in the order shown: 1. Registration Sensor 2. HCIT system board
14	Use the Standalone Feeding Operation Test to determine where the paper jams. Use the **"HCIT system board LED error code table" on page 2-121** to help isolate problems in the feed unit assembly. Are you able to determine where the failure is occurring?	Repair or replace parts as necessary	Replace the feed unit assembly

Envelope feeder

Before proceeding with this service check, make sure the envelope option is installed correctly.

Step	Action and questions	Yes	No
1	Make sure the envelopes installed in the tray meet specifications. Some guidelines that can be used in selection of envelopes that will minimize the jam rate are: • Flat envelopes that are not warped or twisted. • Flexible envelopes that can conform to the paper path. • Smooth surface on the envelopes. Rough or ridged surfaces may cause the envelopes to stick together in the tray. • No cotton content, or as little as possible to meet the user's needs. • If the envelopes have a pressure sensitive adhesive flap, performance might be improved by reversing the orientation of the envelope in the tray and reversing the image in the drive or application. Are any problems found with the envelopes?	Inform the customer of the problems with the envelopes that do not meet specifications.	Go to step 2
2	Make sure the envelopes are loaded correctly. Make sure the side and back restraints are located and seated properly. Are the envelopes loaded correctly?	Go to step 3	Load the envelopes correctly.
3	Observe if the envelopes feed from the tray. **Note:** You can observe the autocompensator pick rolls and the envelopes through the tray access door. Are the envelopes leaving the tray?	Go to step 8	Go to step 4
4	Check the pick rolls to verify both pick rolls are installed. Are any of the pick rolls missing?	Go to step 5	Install a new pair of pick rolls. Both pick rolls should be installed at the same time. See **"Pick rolls" on page 4-59**
5	Check to make sure the autocompensator pick rolls are correctly installed. Are the autocompensator pick rolls correctly installed?	Go to step 6	Install the pick rolls correctly. See **"Pick rolls" on page 4-59**.
6	Observe the pick rolls as they try to pick and feed envelopes from the tray. Do the pick rolls turn?	Go to step 7	Replace the envelope option.
7	Check the autocompensator pick rolls for signs wear or contamination. Are the pick rolls worn or contaminated?	Replace the pick rolls. Both pick rolls should be replaced at the same time. See **"Pick rolls" on page 4-59**.	Go to step 8
8	If you continue to have problems, replace the complete envelope option.		

250 Paper Jam

Unable to clear the message—Multipurpose feeder loaded

Note: A 250 Paper Jam displays when using a multipurpose feeder.

Step	Action and questions	Yes	No
1	Make sure the media in the MPF meets specifications. Does media meet specifications?	Go to step 2	Inform user that the media in the MPF does not meet specifications.
2	Does the media feed correctly from tray 1?	Go to step 3	Go to **"Tray 1 service check" on page 2-142**.
3	Is the Paper Type setting correct for media in the MPF?	Go to step 4	Correct the Paper Type setting.
4	Check the media is loaded properly. The side restraint should not be too tight. The leading edge of the media should be sitting on the friction buckler. Is the media correctly loaded?	Go to step 5	Properly load the media.
5	Open the MPF to the horizontal position and check the paper path for obstructions. Is the paper path obstructed?	Clear the obstruction.	Go to step 6
6	Raise the pick tire off the media and test the MPF. Does the pick tire turn?	Go to step 8	Go to step 7
7	Open the lower jam access door, move the MPF bracket assembly gear to the lowest position and test the MPF. Does the MPF bracket assembly rise and engage the gear?	Go to step 8	Replace the MPF bracket assembly. See **"MPF bracket assembly" on page 7-19**
8	Does media jam on the friction buckler?	Replace the **"Friction buckler" on page 4-33**.	Call your next level of support.

Displayed with no media in MPF

A 250 Paper Jam indicates that the MPF tried to feed a sheet of media from the MPF tray. A 250 Paper Jam may occur when there is no paper in the MPF, MPF is selected as the paper source, or the MPF sensor is malfunctioning. If media is in the MPF it may feed normally with no 250 Paper Jam even though the sensor is malfunctioning.

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Enter the Diagnostics Menu. Select INPUT TRAY TESTS, Sensor Test, and MP Feeder. Manually actuate the MPF sensor by moving the paper flag in the MPF.
Does the test pass?</td><td>Replace the MPF assembly.</td><td>Go to step 2</td></tr>
<tr><td>2</td><td>Make sure that the MPF sensor cable from the system board is correctly installed at J21 on the system board.
Is the cable correctly installed?</td><td>Go to step 3</td><td>Install the cable correctly</td></tr>
<tr><td>3</td><td>Check the cable connection between the MPF sensor cable and the sensor. Check that the sensor is snapped into the bracket.
Is the connection good between the two cables?</td><td>Go to step 4</td><td>Install the cable correctly</td></tr>
<tr><td>4</td><td>Disconnect the sensor cable from J21 on the system board.
Measure the following voltages on J21, being careful not to short any adjacent pins in the connector. All voltages are approximate values.
<table>
<tr><th>Connector pin</th><th>Voltage</th></tr>
<tr><td>J21-11</td><td>0 V dc</td></tr>
<tr><td>J21-12</td><td>+5 V dc</td></tr>
<tr><td>J21-13</td><td>+5 V dc</td></tr>
<tr><td>J21-14</td><td>+5 V dc</td></tr>
</table>
Are the voltages correct?</td><td>Go to step 5</td><td>Replace the “System board” on page 4-72</td></tr>
<tr><td>5</td><td>Check continuity of the sensor cable that is between the system board and MPF assembly.
Is there continuity?</td><td>Replace the sensor assembly</td><td>Replace the sensor cable assembly</td></tr>
</table>

271 Paper Jam - check bin 1

Output bin

POST complete, first sheet of paper feeds into output bin *x*.

Note: Before proceeding with this service check run the Output Bin *x* Sensor Test and check for the failing sensor.

Sensor Tests:

XNF Near Full (Upper part of sensor assembly)

F Full (Lower part of sensor assembly)

P Pass Thru Sensor

Step	Actions and questions	Yes	No
1	DC motor cable connection - Make sure the DC motor connector is correctly installed at J4 on the output expander option board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	DC motor mechanical linkage assembly - Check the resistance of the motor on the cable connector. Check the resistance between J4-1 and J4-2. The resistance measures between 115 ohms and 135 ohms. Is the resistance correct?	Go to step 3	Replace the DC motor mechanical linkage assembly
3	DC motor mechanical linkage assembly - Check for continuity between J4-1 and J4-2 and the case of the motor. It measures infinity. Is there continuity between J4-1 or J4-2 and the case of the motor? **Note**: If the motor is shorted from either J4-1 or J4-2 and the case of the motor, it may be necessary to replace the output expander control board.	Replace the DC motor mechanical linkage assembly	Go to step 4
4	Output expander board - Disconnect the motor cable from J4 and check the voltages at J4 on the board. **Note**: All voltages are approximate values: J4-1 (motor idle) +24 V dc J4-2 (motor idle) +24 V dc J4-5 (motor idle) +5 V dc J4-6 (motor idle) +5 V dc **Warning:** Be careful not to short to adjacent pins on the connector. Are the voltages correct?	Replace the DC motor mechanical linkage assembly	Replace the output expander control board

272 Paper Jam - check bin x

5-bin mailbox

Step	Action and questions	Yes	No
1	Bottom pass thru sensor flag - Make sure the flag is operating correctly and is not binding, broken, and there is no interference from the sensor cable. Is there any problem found with the sensor flag?	Fix or replace the flag	Go to step 2
2	Bottom pass thru sensor - Make sure the sensor is correctly connected to J5 on the control board. Is the sensor connected correctly?	Go to step 3	Reseat the cable
3	Bottom pass thru sensor voltage check 1 - Disconnect the pass thru sensor cable and check the voltage at J5-3 on the board. The voltage measures approximately +5 V dc. Is the voltage correct?	Go to step 4	Replace the control board
4	Bottom pass thru sensor voltage check 2 - Check the voltage at J5-2 on the board, the voltage measures approximately 0 V dc. Is the voltage correct?	Replace the sensor assembly	Replace the control board

5-bin mailbox

POST incomplete

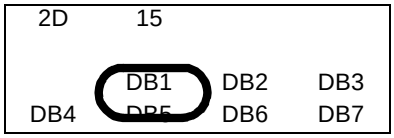
Step	Actions and questions	Yes	No
1	Pass thru sensor flag - Check the sensor flag for correct operation. Is the flag operating correctly?	Go to step 2	Repair or replace as necessary
2	Pass thru sensor cable - Make sure the pass thru sensor cable is correctly connected to J3 on the control board. Is the cable connected correctly?	Go to step 3	Reseat the cable
3	Voltage check - Disconnect the pass thru sensor cable from the control board and check the voltage on J3-3. The voltage measures approximately +5 V dc. Is the voltage correct?	Go to step 4	Replace the control board
4	Voltage check - Measure the voltage at J3-2. The voltage measures approximately 0 V dc. Is the voltage correct?	Replace the control board	Replace the sensor assembly

280 Paper Jam

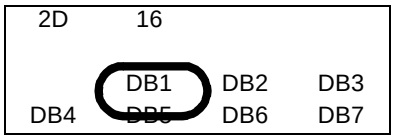
Use the table below to determine where to check for jams in the printer and to diagnose a 280 Paper Jam. Check the area indicated to find the jam and the problem. If this does not fix the problem, contact the next level ow support.

Scroll down with **Menu** to see the additional display lines and view the value at the indicated position (data bit 1 - DB1) and match the information to the table below.

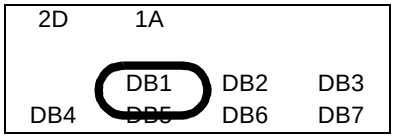
Finisher (Bin 1) - No other output options



Finisher (Bin 2) - With output expander installed



Finisher (Bin 6) - With 5-bin mailbox installed



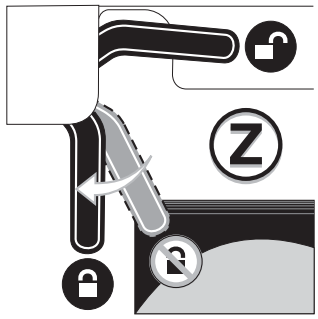
DB1	Explanation
01	Paper detected at inverter timing sensor too long. Paper jam in inverter, sensor failure.
02	Paper detected at inverter jam sensor too long. Paper jam in inverter, sensor failure.
03	Paper detected at drop timing sensor too long. Paper jam at accumulator entrance, sensor failure.
04	Paper detected at exit timing sensor too long. Paper jam at exit, chad stuck in sensor, sensor failure.
06	Punch motor homing timeout error. Backup chads jamming motor, motor or sensor failure.
07	Stapler jam detected. Too many sheets or stiff paper in accumulator, motor or sensor failure.
08	Belt motor homing timeout error. Paper jam in accumulator, motor or sensor failure.
09	Tray elevation motor timeout error. Stuck or failed paper level sensor, motor failure.
13	Paper not detected at inverter timing sensor within timeout. Jam near input, misdirected sheet (diverter stuck or misaligned), sensor failure.
14	Paper not detected at inverter jam sensor within timeout. Paper jam in inverter, sensor failure.
15	Paper not detected at drop timing sensor within timeout. Paper jam in inverter, sensor failure.
16	Paper not detected at exit timing sensor within timeout. Jam in accumulator, belt motor failure, sensor failure.
1B	Paper detected at inverter timing sensor before punch timing sensor. Damaged sheet (dogear), transparency sent to finisher, sensor failure.

DB1	Explanation
1C	Paper detected at punch timing sensor too long. Dirty or failed punch timing sensor.
1E	Paper not detected at punch timing sensor within timeout. Jam near input, misdirected sheet (diverter stuck or misaligned), sensor failure.
1F	Finisher internal software error. Intermittent sensor might cause this error.
20	Unexpected sheet detected at punch timing sensor. Stuck diverter (possibly due to alignment), damaged sheet, dirty or failed sensor.

900 RIP Software Error

The 900 error may indicate a communication problem (bad cable, network connection, and so on), software issue, or a hardware problem with the controller board/INA. The communication and software aspects should be checked first. Determine if the problem is constant or intermittent.

Constant 900 errors

Step	Action and questions	Yes	No
1	Reset the ITU electrical disconnect. Turn the printer off. Check the ITU Release Lever for correct operation. The ITU Release Lever is the black lever located on the left upper side frame above the ITU opening and can be seen by opening and lowering the MPF Assembly. When locked the lever should be at the 6 o'clock position. When unlocked it should be in a 3 o'clock position. Undue pressure is not required to operate the lever Turn the printer off, insert the ITU, move the lever to the 6 o'clock position, and turn the printer back on.  Does the 900 error display?	Go to step 2	Problem resolved
2	Disconnect the printer from any external connections. Turn the power off and remove any parallel, USB, or network connections. Turn the printer on. Does the 900 error display?	Go to step 4	Go to step 3
3	Run the internal test pages. Print one of the internal test pages from the Utilities Menu. If the printer works correctly while disconnected, have the user or their network administrator verify that there are no jobs in the queue which may be causing the error. Does the error remain?	Inform the user or network administrator of the issue.	Go to step 4

Step	Action and questions	Yes	No
4	Turn the printer off. Remove any options from the system board, such as additional memory, hard disk drives, or option cards. Does the 900 error persist when the printer is turned on?	Go to step 5	Determine which option is causing the 900 error.
5	Restore factory defaults from the Configuration Menu. **Warning:** When factory defaults or restored, all menu items are returned to the factory default values except: • Display Language. • All settings in the Parallel Menu, Serial Menu, Network Menu, and USB Menu. All downloaded resources (fonts, macros, and symbol sets) in printer memory (RAM) are deleted. (Resources residing in flash memory or on the hard disk are unaffected.)	Record the secondary error codes. With the 900 Service RIP Error displayed, press **Select** and **Return** together. Record the complete list by scrolling with **Menu**. The code may be a very long string of characters and numbers, but is needed for analysis. Contact your next level of support.	Problem solved.

Intermittent 900 Service RIP Error codes

It is important to determine under what circumstances the error occurs. Capturing the following information aids in categorizing the nature of the intermittent error.

1. Crash codes - With the 900 Service RIP Error displayed, press **Select** and **Return** together. Record the complete secondary codes by scrolling with **Menu**. The code may be a very long string of characters and numbers, but it is needed to analyze the problem.
2. Print history - Printed the printer history by entering Diagnostics Mode and selecting **Print History** in the **Development** menu.
3. Code level - Obtain the code level for the RIP, network, and engine. All of these can be found on **Print Menus** page from the **Utilities** menu.
4. Type of connection being used to print - Record the type of connection. For example, direct USB or parallel, or network peer to peer, Ethernet, token ring, or so on.
5. Software application - Does one particular application or print job sent to the printer produce this error?
6. Driver - What driver or driver level.

With this information in hand, contact you next level of support.

900 Error Code displayed when the machine is connected to a network while still in Setup Required Mode

Step	Actions and questions	Yes	No
1	Perform the following steps: 1. Power the printer off. 2. Disconnect the printer from the network. 3. Power the printer on and complete the setup process. 4. When setup is complete, power off the printer and reconnect to the network. Is the same 900 Service Error displayed?	Contact your next level support	Problem solved

925 error code

Fuser fan (main fan)

<table>
<tr><th>Step</th><th>Actions and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Turn the power off and manually spin the fan and check that it rotates freely.
Does the fan rotate freely?</td><td>Go to step 2</td><td>Replace the “Fuser fan” on page 4-38</td></tr>
<tr><td>2</td><td>Check the fuser fan cable connection to the system board, J31 for correct installation.
Is the cable installed correctly?</td><td>Go to step 3</td><td>Install the cable correctly</td></tr>
<tr><td>3</td><td>Disconnect the fuser fan from J31 on the system board and check the voltages on J31.
<table>
<tr><th>Pin</th><th>Fan on</th><th>Fan off</th><th>Fan disconnected Fan switch on</th><th>Fan disconnected Fan switch off</th></tr>
<tr><td>J31-1</td><td>+1.6 V dc</td><td>+3.3 V dc</td><td>+3.3 V dc</td><td>+3.3 V dc</td></tr>
<tr><td>J31-2</td><td>0 V</td><td>0 V</td><td>0 V</td><td>0 V</td></tr>
<tr><td>J31-3</td><td>+1.9 V dc</td><td>0 V dc</td><td>0 V</td><td>+2 V dc</td></tr>
<tr><td>J31-4</td><td>+24 V dc</td><td>+24 V dc</td><td>+24 V dc</td><td>+24 V dc</td></tr>
<tr><td>J31-5</td><td>Ground</td><td></td><td></td><td></td></tr>
</table>
Are the voltages correct?</td><td>Replace the “Fuser fan” on page 4-38</td><td>Replace the “System board” on page 4-72</td></tr>
</table>

926 error code

VTB Fan service check

<table>
<tr><th>Step</th><th>Actions and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Turn the power off and manually spin the fan and check that it rotates freely.
Does the fan rotate freely?</td><td>Go to step 2</td><td>Replace the “Vacuum transport belt (VTB) fan” on page 4-79</td></tr>
<tr><td>2</td><td>Check the VTB fan cable connection to the system board, J32 for correct installation.
Is the cable installed correctly?</td><td>Go to step 3</td><td>Install the cable correctly</td></tr>
<tr><td>3</td><td>Disconnect the VTB fan from J32 on the system board and check the voltages on J32.
<table>
<tr><th>Pin</th><th>Fan on</th><th>Fan off</th><th>Fan disconnected fan switch on</th><th>Fan disconnected fan switch off</th></tr>
<tr><td>J32-1</td><td>+1.6V dc</td><td>+3.3 V dc</td><td>+3.3 V dc</td><td>+3.3 V dc</td></tr>
<tr><td>J32-2</td><td>0 V</td><td>0 V</td><td>0 V</td><td>0 V</td></tr>
<tr><td>J32-3</td><td>+3.1 V dc</td><td>0 V dc</td><td>0 V</td><td>+2 V dc</td></tr>
<tr><td>J32-4</td><td>+24 V dc</td><td>+24 V dc</td><td>+24 V dc</td><td>+24 V dc</td></tr>
</table>
Are the voltages correct?</td><td>Replace the “Vacuum transport belt (VTB) fan” on page 4-79</td><td>Replace the “System board” on page 4-72</td></tr>
</table>

927 error code

RIP Fan service check

<table>
<tr><th>Step</th><th>Actions and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Turn the power off and manually spin the fan and check that it rotates freely.
Does the fan rotate freely?</td><td>Go to step 2</td><td>Replace the “RIP fan” on page 4-69</td></tr>
<tr><td>2</td><td>Check the RIP fan cable connection to the system board, J3 for correct installation.
Is the cable installed correctly?</td><td>Go to step 3</td><td>Install the cable correctly</td></tr>
<tr><td>3</td><td>Disconnect the RIP fan from J3 on the system board and check the voltages on J3.
<table>
<tr><th>Pin</th><th>Fan on</th><th>Fan off</th><th>Fan disconnected Fan switch on</th><th>Fan disconnected Fan switch off</th></tr>
<tr><td>J3-1</td><td>+1.6 V dc</td><td>+3.3 V dc</td><td>+3.3 V dc</td><td>+3.3 V dc</td></tr>
<tr><td>J3-2</td><td>0 V</td><td>0 V</td><td>0 V</td><td>0 V</td></tr>
<tr><td>J3-3</td><td>+1.9 V dc</td><td>0 V dc</td><td>0 V</td><td>+2 V dc</td></tr>
<tr><td>J3-4</td><td>+24 V dc</td><td>+24 V dc</td><td>+24 V dc</td><td>+24 V dc</td></tr>
</table>
Are the voltages correct?</td><td>Replace the “RIP fan” on page 4-69</td><td>Replace the “System board” on page 4-72</td></tr>
</table>

930 error code

LVPS

This problem with the fuser circuits is usually the zero crossover signal from the LVPS not working correctly.

Step	Action and questions	Yes	No
1	LVPS cable - check the LVPS cable to J33 on the system board to make sure it is seated correctly. Go to **“System board” on page 5-8**. Is the cable seated correctly?	Go to step 2	Install the cable correctly
2	Voltage checks - Disconnect J10 from the system board assembly. Go to **“System board” on page 5-8**. Check the voltage at J33, on the cable. It measures approximately +3.7 V dc. Is the voltage correct?	Go to step 3	Replace the following FRUs in order: 1. **“LVPS assembly” on page 4-46** 2. **“System board” on page 4-72**
3	Is 930 error still displayed?	Replace the **“LVPS assembly” on page 4-46**	Problem solved

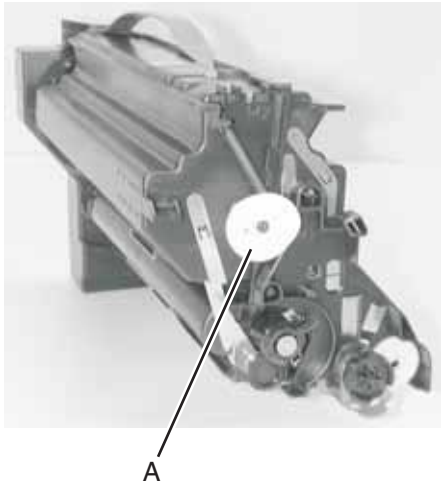
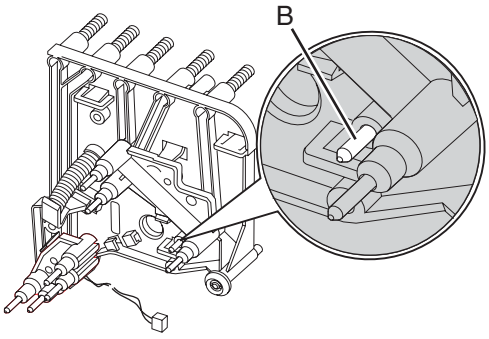
940 error code

Cyan toner metering cycle (TMC)

The TMC is where the code and electronics in the printer sense an addition of toner in the cartridge developing area. If the printer is expecting a toner addition cycle but one is not detected, a 94x TMC Error is displayed.

Replacement of the cartridge may fix the problem temporarily if the problem is with the printer. Only replace the cartridge if there are no problems with the printer or if the cartridge is known to be defective.

Note: Before proceeding with this service check, observe the error log for repetitive occurrences of a 94*x* service error.

Step	Actions and questions	Yes	No
1	Check the toner metering cam (A) on the rear of the cyan cartridge. **Note:** In some cartridges the toner metering cam is black.  Is the cam present on the cartridge?	Go to step 2	If the toner metering cam is not present, check the printer to make sure it is not inside. Replace the damaged cartridge.
2	Check the TMC pin (B) in the cyan cartridge contact assembly to make sure it moves freely.  Does the pin move freely?	Go to step 3	Replace the **"Cartridge contact assembly" on page 4-29**.

Step	Actions and questions	Yes	No
3	Go to **"BASE SENSOR TEST" on page 3-30** and check the cyan TMC sensor. When you press the TMC pin in the cyan cartridge contact assembly make sure it actuates the TMC switch on the developer HVPS. When the TMC pin is pressed in you hear a *click* when the switch actuates. Check for mechanical interference between the contact block and the developer HVPS. **Note:** You may need to turn the printer off to hear the *click*. Does the cyan TMC switch on the developer HVPS board actuate properly when the TMC pin is pressed?	Replace the cartridge.	Go to step 4
4	Check the developer HVPS board to make sure it is not cracked or broken. Is the developer HVPS cracked or broken?'	Go to step 6	Go to step 5
5	Check the mounting of the developer HVPS. Make sure the screws that mount the power supply are properly tightened down and the board is positioned and mounted correctly. Is the developer HVPS mounted correctly?	Replace the developer HVPS assembly.	If the board is incorrectly installed, install it correctly. Make sure all the mounting screws are tightened down. Recheck the printer to see if a 940 Error is still displayed.
6	Make sure the developer HVPS cable is correctly installed on the developer board assembly. Is the cable correctly installed?	Go to step 7	Correctly connect the cable.
7	Make sure the developer HVPS cable is correctly installed at J14 on the system board. Is the cable properly installed?	Go to step 8	Correctly connect the cable.
8	Check the voltage at connector J14-11 on the system board while pressing the cyan TMC pin in the cartridge contact assembly. Does the voltage change when the pin is pressed?	Replace the **"System board" on page 4-72**.	Go to step 9
9	Check the voltage at connector J14-11 when the cyan TMC switch is pressed. Does the voltage measure approximately +3.3 V dc?	Go to step 10	Go to step 11
10	Check the developer HVPS to system board cable for damage, broken connections, or wire and shorts between adjacent pins. Are there any signs of damage to the cable?	Replace the cable.	Replace the **"Developer HVPS board" on page 4-31**.
11	Disconnect the developer HVPS cable from connector J14 on the system board. Measure the voltage on connector J14-11 on the system board. Does the voltage measure approximately 0 V dc?	Replace the **"System board" on page 4-72**.	Replace the developer HVPS and developer HVPS to system board cable.

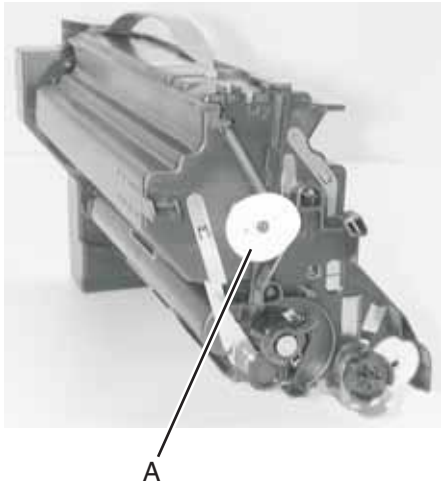
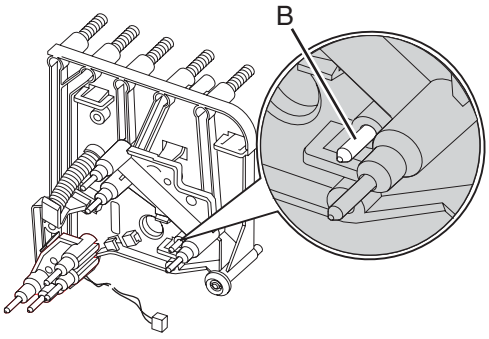
941 error code

Magenta toner metering cycle (TMC)

The TMC is where the code and electronics in the printer sense an addition of toner in the cartridge developing area. If the printer is expecting a toner addition cycle but one is not detected, a 94x TMC Error is displayed.

Replacement of the cartridge may fix the problem temporarily if the problem is with the printer. Only replace the cartridge if there are no problems with the printer or if the cartridge is known to be defective.

Note: Before proceeding with this service check, observe the error log for repetitive occurrences of a 94*x* service error.

Step	Actions and questions	Yes	No
1	Check the toner metering cam (A) on the rear of the magenta cartridge. **Note:** In some cartridges, the toner metering cam is black.  Is the cam present on the cartridge?	Go to step 2	If the toner metering cam is not present, check the printer to make sure it is not inside. Replace the damaged cartridge.
2	Check the TMC pin (B) in the magenta cartridge contact assembly to make sure it moves freely.  Does the pin move freely?	Go to step 3	Replace the **“Cartridge contact assembly” on page 4-29**.

Step	Actions and questions	Yes	No
3	Go to **"BASE SENSOR TEST" on page 3-30** and check the magenta TMC sensor. When you press the TMC pin in the magenta cartridge contact assembly make sure it actuates the TMC switch on the developer HVPS. When the TMC pin is pressed in you hear a *click* when the switch actuates. Check for mechanical interference between the contact block and the developer HVPS. **Note:** You may need to turn the printer off to hear the *click*. Does the magenta TMC switch on the developer HVPS board actuate properly when the TMC pin is pressed?	Replace the cartridge.	Go to step 4
4	Check the developer HVPS board to make sure it is not cracked or broken. Is the developer HVPS cracked or broken?'	Go to step 6	Go to step 5
5	Check the mounting of the developer HVPS. Make sure the screws that mount the power supply are properly tightened down and the board is positioned and mounted correctly. Is the developer HVPS mounted correctly?	Replace the **"Developer HVPS board" on page 4-31**.	If the board is incorrectly installed, install it correctly. Make sure all the mounting screws are tightened down. Recheck the printer to see if a 941 Error is still displayed.
6	Make sure the developer HVPS cable is correctly installed on the developer board assembly. Is the cable correctly installed?	Go to step 7	Correctly connect the cable.
7	Make sure the developer HVPS cable is correctly installed at J20 on the system board. Is the cable properly installed?	Go to step 8	Correctly connect the cable.
8	Check the voltage at connector J14-6 on the system board while pressing the magenta TMC pin in the cartridge contact assembly. Does the voltage change when the pin is pressed?	Replace the **"System board" on page 4-72**.	Go to step 9
9	Check the voltage at connector J14-6 when the magenta TMC switch is pressed. Does the voltage measure approximately +3.3 V dc?	Go to step 10	Go to step 11
10	Check the developer HVPS to system board cable for damage, broken connections, or wire and shorts between adjacent pins. Are there any signs of damage to the cable?	Replace the cable.	Replace the **"Developer HVPS board" on page 4-31**.
11	Disconnect the developer HVPS cable from connector J14 on the system board. Measure the voltage on connector J14-6 on the system board. Does the voltage measure approximately 0 V dc?	Replace the **"System board" on page 4-72**.	Replace the developer HVPS and developer HVPS to system cable.

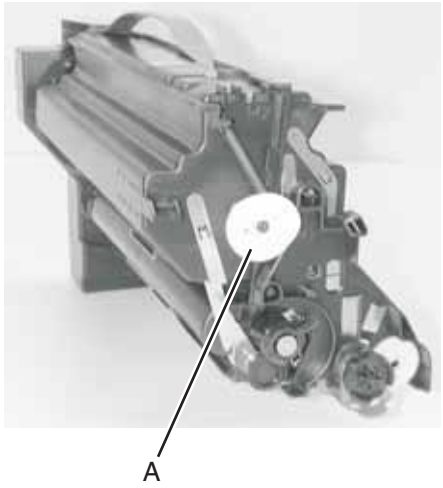
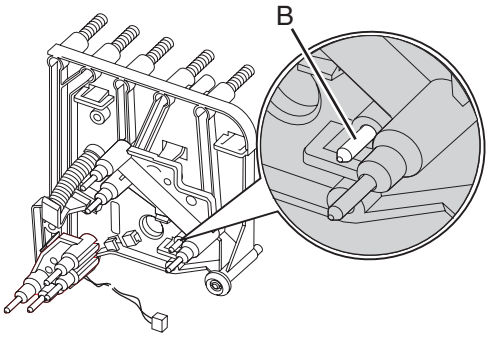
942 error code

Yellow toner metering cycle (TMC)

The TMC is where the code and electronics in the printer sense an addition of toner in the cartridge developing area. If the printer is expecting a toner addition cycle but one is not detected, a 94x TMC Error is displayed.

Replacement of the cartridge may fix the problem temporarily if the problem is with the printer. Only replace the cartridge if there are no problems with the printer or if the cartridge is known to be defective.

Note: Before proceeding with this service check, observe the error log for repetitive occurrences of a 94*x* service error.

Step	Actions and questions	Yes	No
1	Check the toner metering cam (A) on the rear of the yellow cartridge. **Note:** In some cartridges the toner metering cam is black.  Is the cam present on the cartridge?	Go to step 2	If the toner metering cam is not present, check the printer to make sure it is not inside. Replace the damaged cartridge.
2	Check the TMC pin (B) in the yellow cartridge contact assembly to make sure it moves freely.  Does the pin move freely?	Go to step 3	Replace the **"Cartridge contact assembly" on page 4-29**.

Step	Actions and questions	Yes	No
3	Go to **"BASE SENSOR TEST" on page 3-30** and check the yellow TMC sensor. When you press the TMC pin in the yellow cartridge contact assembly make sure it actuates the TMC switch on the developer HVPS. When the TMC pin is pressed in you hear a *click* when the switch actuates. Check for mechanical interference between the contact block and the developer HVPS. **Note:** You may need to turn the printer off to hear the click. Does the yellow TMC switch on the developer HVPS board actuate properly when the TMC pin is pressed?	Replace the cartridge.	Go to step 4
4	Check the developer HVPS board to make sure it is not cracked or broken. Is the developer HVPS cracked or broken?'	Go to step 6	Go to step 5
5	Check the mounting of the developer HVPS. Make sure the screws that mount the power supply are properly tightened down and the board is positioned and mounted correctly. Is the developer HVPS mounted correctly?	Replace the developer HVPS assembly.	If the board is incorrectly installed, install it correctly. Make sure all the mounting screws are tightened down. Recheck the printer to see if a 942 Error is still displayed.
6	Make sure the developer HVPS cable is correctly installed on the developer board assembly. Is the cable correctly installed?	Go to step 7	Correctly connect the cable.
7	Make sure the developer HVPS cable is correctly installed at J14 on the system board. Is the cable properly installed?	Go to step 8	Correctly connect the cable.
8	Check the voltage at connector J14-16 on the system board while pressing the yellow TMC pin in the cartridge contact assembly. Does the voltage change when the pin is pressed?	Replace the **"System board" on page 4-72**.	Go to step 9
9	Check the voltage at connector J14-16 when the yellow TMC switch is pressed. Does the voltage measure approximately +3.3 V dc?	Go to step 10	Go to step 11
10	Check the developer HVPS to system board cable for damage, broken connections, or wire and shorts between adjacent pins. Are there any signs of damage to the cable?	Replace the cable.	Replace the **"Developer HVPS board" on page 4-31**.
11	Disconnect the developer HVPS cable from connector J14 on the system board. Measure the voltage on connector J14-16 on the system board. Does the voltage measure approximately 0 V dc?	Replace the **"System board" on page 4-72**.	Replace the developer HVPS and developer HVPS to system board cable.

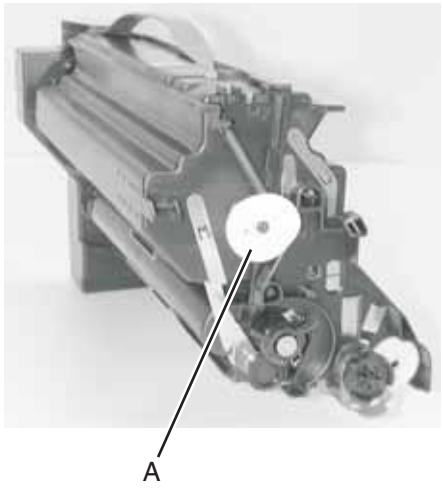
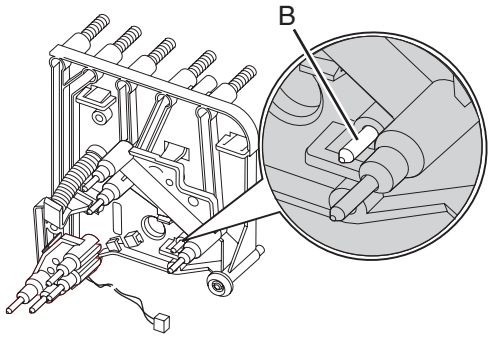
943 error code

Black toner metering cycle (TMC)

Toner metering cycle (TMC) is where the code and electronics in the printer sense an addition of toner in the cartridge developing area. If the printer is expecting a toner addition cycle but one is not detected, a 94x TMC Error is displayed.

Replacement of the cartridge may fix the problem temporarily if the problem is with the printer. Only replace the cartridge if there are no problems with the printer or if the cartridge is known to be defective.

Note: Before proceeding with this service check, observe the error log for repetitive occurrences of a 94*x* service error.

Step	Actions and questions	Yes	No
1	Check the toner metering cam (A) on the rear of the black cartridge. **Note:** In some cartridges the toner metering cam is black. Is the cam present on the cartridge? 	Go to step 2	If the toner metering cam is not present, check the printer to make sure it is not inside. Replace the damaged cartridge.
2	Check the TMC pin (B) in the black cartridge contact assembly to make sure it moves freely.  Does the pin move freely?	Go to step 3	Replace the **“Cartridge contact assembly” on page 4-29**.

Step	Actions and questions	Yes	No
3	Go to **"BASE SENSOR TEST" on page 3-30** and check the black TMC sensor. When you press the TMC pin in the black cartridge contact assembly make sure it actuates the TMC switch on the developer HVPS. When the TMC pin is pressed in you hear a *click* when the switch actuates. Check for mechanical interference between the contact block and the developer HVPS. **Note:** You may need to turn the printer off to hear the *click*. Does the black TMC switch on the developer HVPS board actuate properly when the TMC pin is pressed?	Replace the cartridge.	Go to step 4
4	Check the developer HVPS board to make sure it is not cracked or broken. Is the developer HVPS cracked or broken?'	Go to step 6	Go to step 5
5	Check the mounting of the developer HVPS. Make sure the screws that mount the power supply are properly tightened down and the board is positioned and mounted correctly. Is the developer HVPS mounted correctly?	Replace the developer HVPS assembly.	If the board is incorrectly installed, install it correctly. Make sure all the mounting screws are tightened down. Recheck the printer to see if a 943 Error is still displayed.
6	Make sure the developer HVPS cable is correctly installed on the developer board assembly. Is the cable correctly installed?	Go to step 7	Correctly connect the cable.
7	Make sure the developer HVPS cable is correctly installed at J14 on the system board. Is the cable properly installed?	Go to step 8	Correctly install the cable.
8	Check the voltage at connector J14-1 on the system board while pressing the black TMC pin in the cartridge contact assembly. Does the voltage change when the pin is pressed?	Replace the **"System board" on page 4-72**.	Go to step 9
9	Check the voltage at connector J14-1 when the black TMC switch is pressed. Does the voltage measure approximately +3.3 V dc?	Go to step 10	Go to step 11
10	Check the developer HVPS to system board cable for damage, broken connections, or wire and shorts between adjacent pins. Are there any signs of damage to the cable?	Replace the cable.	Replace the **"Developer HVPS board" on page 4-31**.
11	Disconnect the developer HVPS cable from connector J14 on the system board. Measure the voltage on connector J14-1 on the system board. Does the voltage measure approximately 0 V dc?	Replace the **"System board" on page 4-72**.	Replace the developer HVPS and developer HVPS to system board cable.

956 service error

Service <*xxxx*> System Board

Step	Action and questions	Yes	No
1	Remove all option boards from the system board. Turn on the printer. Does the error continue?	Replace the system board. See **"System board" on page 4-72**.	Go to step 2
2	Replace each option board one at a time, making sure the boards are properly seated. Turn the printer off and then on between each option board to view any error messages. Does the error reappear?	Replace the failing option board.	Problem fixed.

990 service error

This error indicates which option is causing the error.

5-Bin mailbox

Step	Action and questions	Yes	No
1	Mechanical linkage/DC motor assembly - Check the DC motor cable connector to make sure it is installed at J4 on the control board. Is the cable connected correctly?	Go to step 2	Reseat the cable and recheck for correct operation of the option
2	Resistance check - Disconnect J4 from the option board and check the resistance of the motor on the cable connector between J2-1 and J2-2. The resistance measures between 115 and 135 ohms. Is the resistance correct?	Go to step 3	Replace the mechanical linkage/DC motor assembly
3	DC motor - Check between J2-1 and between J2-2 and the case of the DC motor for shorts. Is the DC motor shorted? **Note**: If the DC motor is shorted, damage may result to the control board.	Replace the mechanical linkage/DC motor assembly	Go to step 4
4	Output expander control board check - Disconnect the motor cable J2 and check the voltages at J2 on the board. **Warning**: Be careful not to short to adjacent pins on the connector. The voltages measure: **(Note**: All voltages are approximate values.) J2-1 (motor Idle) +24 V dc J2-2 (motor Idle) +24 V dc J2-3 (motor Idle) +5 V dc J2-4 (motor Idle) +5 V dc Are the voltages correct?	Replace the control board	Replace the mechanical linkage/DC motor assembly

500-sheet drawer option

For 990 Service Error - Tray *x*, *x*=Tray 2, 3, 4 or 5, this is the tray that has a problem or needs service.

Note: Verify the autoconnect housing is correctly snapped into the printer and all options, and is plugged into the system board correctly.

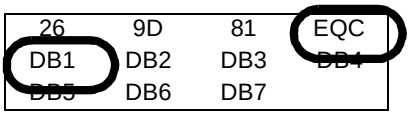
Step	Action and questions	Yes	No
1	Make sure the autocompensator cable is correctly installed at the tray system board. Is the cable correctly installed?	Go to step 2	Install the cable correctly
2	Make sure the drive assembly cable is connected correctly to the tray system board. Is the cable correctly installed?	Go to step 3	Install the cable correctly
3	Check for worn or broken parts in the autocompensator and drive assemblies. Are any parts worn, broken, or damaged?	Replace the assembly that has the defective parts	Replace the FRUs in the following order: 1. Electronic/ size sensing assembly 2. Autocom- pensator assembly 3. Drive Assembly

Output expander

Step	Actions and questions	Yes	No
1	Mechanical linkage/DC motor assembly - Make sure the DC motor cable connector is installed at J4 on the output expander control board. Is the cable connected correctly?	Go to step 2	Reseat the cable and recheck for correct operation of the option
2	Resistance check - Disconnect J4 from the option board and check the resistance of the motor on the cable connector between J4-1 and J4-2. The resistance should measure between 115 and 135 ohms. Is the resistance correct?	Go to step 3	Replace the mechanical linkage/DC motor assembly
3	DC motor - Check between J4-1 and between J4-2 and the case of the DC motor for shorts. Is the DC motor shorted? **Note**: If the DC motor is shorted damage may result to the system board.	Replace the mechanical linkage/DC motor assembly	Go to step 4

Step	Actions and questions	Yes	No
4	Output expander control board check - Disconnect the motor cable J4 and check the voltages at J4 on the board. **Warning**: Be careful not to short to adjacent pins on the connector. The voltages measure approximately: J4-1 (Motor Idle) +24 V dc J4-2 (Motor Idle) +24 V dc J4-3 (Motor Idle) +5 V dc J4-4 (Motor Idle) +5 V dc Are the voltages correct?	Replace the output expander control board	Replace the mechanical linkage/DC motor assembly

Finisher

Step	Actions and questions	Yes	No
1	Make sure the top options cable is correctly plugged into the system board. Is the cable correctly installed?	Go to step 2	Install correctly
2	Make sure the finisher cable is correctly installed on top of the printer. Is the cable correctly installed?	Go to step 3	Install correctly
3	Make sure the finisher cable is correcting install on the finisher system board. Is the cable correctly installed?	Go to step 4	Install correctly
4	When 990 error is installed, press and hold Return and Select to view the sub error code. Scroll down with **Menu** to see the additional display lines and view the value at the indicated position (EQC and DB1) and match the information to the table below. **Finisher (Bin 1) - No other output options**  Does the information on the table help find the problem?	Repair the finisher as indicated in the table.	Contact your next level of support.

EQC	DB1	Explanation
45	05	Jogger motor homing timeout error. Obstruction in Jogger, motor or sensor failure.
4C	0C	Offset motor timeout error. No clearance around output bin, motor or sensor failure.
50	10	Stapler unit is removed. Cable harness to stapler damaged or disconnected.

5-bin mailbox option service check

Note: Before proceeding with this service check make sure the option(s) are installed correctly before attempting to service the unit. Make sure the machine is configured correctly. The majority of the mechanical components can be observed during operation by removing the left and right side covers.

Step	Symptoms	Yes	No
1	Problems with excessive static electricity buildup.	Go to **"Problems with excessive static electricity buildup." on page 2-129**	Go to step 2
2	The printer does not recognize one or more output options as installed.	Go to **"The printer does not recognize one or more output options as installed." on page 2-99**	Go to step 3
3	271 Paper Jam - Check Bin 1 message	Go to **"271 Paper Jam - check bin 1" on page 2-80**	Go to step 4
4	274 Paper Jam - Check Bin 4 displays.	Go to **"Ready bin x full message - may be able to clear message and will feed paper into bin selected." on page 2-100**	Go to step 5
5	Ready Bin *x* Full message - May be able to clear message and will feed paper into Bin selected.	Go to **"Ready bin x full message - may be able to clear message and will feed paper into bin selected." on page 2-100**	Go to step 6
6	Bin *x* Full - No message that bin *x* is full	Go to **"Bin x full - no message that bin x is full message" on page 2-100**	Go to step 7
7	Ready - Bin *x* Full displays and paper feeds into Bin *x*	Go to **"Ready - bin x full displays and paper feeds into bin x" on page 2-101**	Go to step 8
8	Paper does not feed into the bin selected. - 271 Paper Jam - Check Bin 1 displays.	Go to **"Paper does not feed into the bin selected. 271 Paper Jam - check bin 1 message" on page 2-101**	Go to step 9

Step	Symptoms	Yes	No
9	990 Service Error	Go to 950 Error Code service check.	Call your next level support

The printer does not recognize one or more output options as installed.

Note: If more than a single output option is installed, check each one to see if the printer recognizes any single option as being installed. If the printer recognizes any of the output options then the base printer autoconnect system is operating correctly and the problem is in the unrecognized option. Continue with this service check or go to service check of the failing output option.

Step	Action and questions	Yes	No
1	Options - Make sure that the output expander option is the only output option that is not recognized by the base printer. Is this the only output option not recognized by the base printer?	Go to step 2	Check the autoconnect system in base printer
2	Mechanical linkage (cables) - Check the 5-Bin Mailbox autoconnect cable and connector for any signs of damage, especially the connector pins. Are there any signs of damage to the cable, connector, or connector pins?	Replace the autoconnect cable	Go to step 3
3	Mechanical linkage (electrical) - Make sure the autoconnect cables are connected correctly to the control board. Are the cables attached securely and correctly?	Go to step 4	Reseat the cables
4	Voltage check, base printer autoconnect connector - Turn the power off and remove the 5-Bin Mailbox option from the printer. Check the voltages on the base printer top autoconnect connector. See **“Autoconnect—top” on page 5-18**. Are the voltages correct?	Go to step 5	Check the autoconnects in the printer
5	Voltage check, 5-Bin Mailbox system board - Reinstall the 5-Bin Mailbox option and check the voltages at J1A and J1B on the connector. Are the voltages correct?	Replace the output expander option system board	Replace the output expander option mechanical linkage assembly

Ready bin *x* full message - may be able to clear message and will feed paper into bin selected.

Note: This sensor is normally in a open position with the flag out of the sensor slot.

Step	Action and questions	Yes	No
1	Bin *x* sensor (bin *x*=Sensor 1 through 5) - Make sure the sensor is seated correctly in the side of tray *x*. Is the sensor seated correctly?	Go to step 2	Install the sensor correctly
2	Bin *x* sensor cable - Make sure that bin *x* sensor cable is connected to the sensor and to the control board. Is the sensor cable connected correctly?	Go to step 3	Install the sensor cable correctly
3	Bin *x* sensor flag - Check the bin *x* sensor flag for binding and proper operation. Are there any problems with the sensor flag?	Repair or replace the sensor flag	Go to step 4
4	Bin *x* sensor cable - Check the continuity of the sensor cable. Is there continuity?	Replace the bin *x* sensor	Replace the bin *x* Cable

Bin *x* full - no message that bin *x* is full message

Step	Action and questions	Yes	No
1	Bin *x* sensor (bin *x*=sensor 1 through 5) - Make sure the sensor is seated correctly in the side of tray *x*. Is the sensor seated correctly?	Go to step 2	Install the sensor correctly
2	Bin *x* sensor cable - Make sure that bin *x* sensor cable is connected to the sensor and to the control board. Is the sensor cable connected correctly?	Go to step 3	Install the sensor cable correctly
3	Bin *x* sensor flag - check the bin *x* sensor flag for binding and proper operation. Are there any problems with the sensor flag?	Repair or replace the sensor flag	Go to step 4
4	Bin *x* sensor cable - Check the continuity of the sensor cable. Is there continuity?	Replace the bin *x* sensor	Replace the bin *x* cable

Ready - bin *x* full displays and paper feeds into bin *x*

Step	Action and questions	Yes	No
1	Bin *x* sensor flag - Make sure the bin *x* sensor flag is not in the up position and is operating correctly. Is the sensor flag operating correctly?	Replace the bin *x* sensor. If this does not fix the problem replace the control board.	Repair or replace as necessary

Paper does not feed into the bin selected. 271 Paper Jam - check bin 1 message

Step	Action and questions	Yes	No
1	Bin parts - Check all the bin parts, deflector, deflector spring, deflector cover, deflector cover spring, and shaft assemblies for signs of missing or loose springs. Check for binds in the deflector or deflector cover, broken or binding shaft assemblies, or broken gear teeth. Are parts broken, loose, binding, or missing?	Replace parts or repairs necessary	Go to step 2
2	Bin *x* solenoid - Check the solenoid for any binds or sticking problems. Is the solenoid binding or sticking?	Replace the solenoid assembly	Go to step 3
3	Bin *x* solenoid - Check the resistance of the solenoid. It measures between approximately 30 ohms and 50 ohms. Is the resistance correct?	Replace the 5-Bin Mailbox control board assembly	Replace Bin *x* solenoid assembly
4	Mechanical linkage/motor assembly - Check the gears, clutch and other linkage parts for correct operation and any signs of wear, broken gear teeth or damaged parts. Are the mechanical linkage assembly mechanical parts broken, worn or damaged?	Replace the mechanical linkage/DC motor assembly	Replace the 5-Bin Mailbox control board assembly

500-sheet drawer option service check

If the paper does not feed from the 500-sheet option, see **"Autocompensator service check" on page 2-107**.

Whenever the 500-Sheet Tray is removed, use care as the autocompensator may be in its down position which could result in damage to the autocompensator assembly.

The tray empty sensor, paper low sensor, and pass thru sensor for any installed tray *x* (*x*=2 through 4) can be checked using the **"Sensor Test" on page 3-25**.

The base printer does not recognize that tray *x* is installed.

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Is tray x the only paper input option that is not recognized?</td><td>Go to step 5</td><td>Go to step 2</td></tr>
<tr><td>2</td><td>Make sure the printer and any option above tray x is installed correctly.
Is the printer and any options installed correctly?</td><td>Go to step 3</td><td>Install the option correctly and recheck</td></tr>
<tr><td>3</td><td>Verify correct installation of the lower options autoconnect cable to system board connector J37.
Is the cable to J37 installed correctly?</td><td>Go to step 4</td><td>Install the cable correctly and recheck</td></tr>
<tr><td>4</td><td>Autoconnect cables - check the autoconnect from the printer or option above tray x. Check for cuts, pinched wiring, or damage to the contacts in the connector.
Are there any problems with the autoconnect cables?</td><td>Repair or replace as necessary</td><td>Go to step 5</td></tr>
<tr><td>5</td><td>Tray x autoconnect cable - check the tray x autoconnect cable(s) for correct installation at the tray x system board.
Are the tray x autoconnect cable(s) connected correctly?</td><td>Go to step 6</td><td>Install the cables correctly and recheck</td></tr>
<tr><td>6</td><td>Tray x autoconnect cable continuity - Check the continuity of the Tray x Autoconnect cable(s).
Is there continuity?</td><td>Go to step 7</td><td>Replace electronic size sensing assembly (includes the system board)</td></tr>
<tr><td>7</td><td>Disconnect J37 from the system board and check the voltages on connector J37 on the system board.
Note: All voltages are approximate values:
<table><tr><th>Connector pins</th><th>Voltage</th></tr><tr><td>J37-1</td><td>+5 V dc</td></tr><tr><td>J37-2</td><td>Ground</td></tr><tr><td>J37-3</td><td>Ground</td></tr><tr><td>J37-4</td><td>+5 V dc</td></tr><tr><td>J37-5</td><td>+24 V dc</td></tr><tr><td>J37-7</td><td>+5 V dc</td></tr><tr><td>J37-8</td><td>+5 V dc</td></tr></table>Are the voltages correct?</td><td>Replace electronic size sensing assembly (includes the tray system board)</td><td>Replace the "System board" on page 4-72</td></tr>
</table>

Tray *x* autocompensator fails to retract, stays in down position.

Step	Action and questions	Yes	No
1	Use care when removing a tray assembly when the autocompensator is in its down position. Remove the tray and manually reset the autocompensator to its uppermost position by actuating the pick arm lift bellcrank. Does the autocompensator assembly stay in the up position?	Go to step 2	Go to step 3
2	Carefully replace the tray and recheck to see if the autocompensator operates correctly. Does the autocompensator assembly operate correctly?	Problem solved	Go to step 3
3	Make sure the autocompensator pick arm lift bellcrank is installed correctly. Is the pick arm lift bellcrank installed correctly?	Go to step 4	Install the bellcrank correctly
4	Check the following for loose, broken, or missing parts: • Boss on the side of the arm • Bellcrank lift spring • Tray interlock bellcrank Are any of these parts loose, broken, or missing?	Repair or replace as necessary	Call your next level of support.

The printer detects paper low in tray *x* when adequate paper is installed in the tray.

Step	Action and questions	Yes	No
1	Run Tray *x* sensor test from the Diagnostics Menu. Does the test pass for sensor L2?	Go to step 3	Go to step 2
2	Check the cable connection for the paper low/out sensor to tray *x* system board. Is the cable correctly installed?	Go to step 3	Install the cable correctly
3	Check the paper level sensing assembly for correct installation. Check the following for damaged or broken parts: • Check the paper level sensing flag bellcrank. • Check the paper level sensor is seated correctly. • Check the paper level sensing flag. • Check the paper level sensing flag spring. Is the paper level sensing assembly installed correctly?	Go to step 4	Install the paper level sensing assembly correctly
4	Is the paper level sensing assembly damaged or broken?	Replace the paper level sensing assembly	

The printer detects paper out in tray *x* when adequate paper is installed in the tray.

Step	Action and questions	Yes	No
1	Run Tray *x* Sensor Test from the Diagnostics Menu. Does the test pass for Sensor L1?	Go to step 5	Go to step 2
2	Check the cable connection for the paper level sensing assembly to tray *x* system board. Is the cable correctly installed?	Go to step 3	Install the cable correctly
3	Check the paper level sensing assembly for correct installation. Is the paper level sensing assembly installed correctly?	Go to step 4	Reinstall the assembly if not installed correctly
4	Check continuity of the paper level sensing assembly cable. Do you measure continuity?	Go to step 5	Replace the cable
5	Check the paper level sensing assembly for correct installation. Check the following for damaged or broken parts: • Paper level sensing flag bellcrank • Paper level sensing flag • Paper level sensing flag spring Is the paper level sensing assembly installed correctly?	Replace the paper level sensing assembly	Go to step 6
6	Make sure the paper level sensing assembly arm goes all the way through the bottom of tray *x*. Does the arm extend all the way down through the bottom of the tray?	Recheck the arm. If the problem continues, replace the paper leveling sensing assembly. If the problem persists, replace the tray *x* system board.	See why the arm is not extending all the way to the bottom of the tray. Repair as necessary.

Tray *x* does not detect size media installed

Step	Action and questions	Yes	No
1	Is the tray set for the size paper loaded in the tray and are the restraints in the correct location?	Go to step 2	Set the correct size
2	Are there damaged or broken size sensing gears or size sensing barrel cam in the tray assembly?	Repair or replace defective parts	Go to step 3
3	Check the paper size sensing assembly for any signs of damaged, binding, or broken parts. Are there broken or damaged parts?	Replace the paper size sensing assembly	Replace the electronics/size sensing assembly

AC and DC power service check

Before proceeding with this service check remove or disconnect any options that may be installed. Turn the machine on. If it operates correctly, reattach one option at a time until the failing option is located.

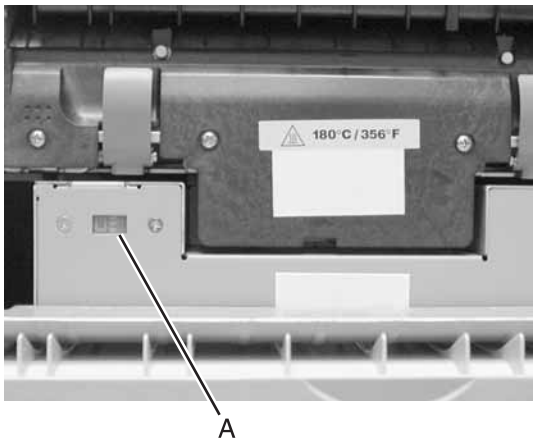
Note: Set the voltage range switch to the proper power setting for the geographic area you are in.

Note: Before proceeding with this service check turn the printer on and check to see if the Power on LED on the system board is turned on.

Step	Actions and questions	Yes	No
1	Is the LED turned on?	Go to **"AC power service check" on page 2-105**	Go to **"DC power service check" on page 2-106**

AC power service check

The printer appears to be inoperative when turned on with the Power on/Status LED off, the LCD display is blank, the Fuser lamps do not come on and no motors turn.

Step	Actions and questions	Yes	No
1	Main AC power - Make sure the printer is receiving main AC power. Is the printer receiving AC power?	Go to step 2	Inform the customer that AC power to the printer is incorrect.
2	AC power check (wall outlet) - Check the AC line voltage at the AC outlet. Is the AC line voltage correct?	Go to step 3	Inform the customer that the AC line voltage is incorrect
3	AC power cord Is the power cord in good condition and correctly installed?	Go to step 4	If the cord is in poor condition, replace the cord
4	AC power check (AC line cord) - Check the AC line voltage at the end of the AC line cord. Is the AC line voltage correct?	Go to step 5	Replace the line cord
5	Check the AC voltage range switch (A).  Is the switch set properly?	Go to step 6	Set switch to the proper voltage.

Step	Actions and questions	Yes	No
6	Low voltage power supply - Turn the power off and disconnect the LVPS at J35 on the system board. Measure the voltages on J35-3 and J35-4. The voltage should measure approximately +5 V dc. Is there approximately +5 V dc on any of these connector pins?	Replace the **"System board" on page 4-72**	Replace the **"LVPS assembly" on page 4-46**

DC power service check

The machine is partially operative, a motor turns, display is on or the Power On LED may be on or off.

Step	Actions and questions	Yes	No
1	Does the printer beep 5 times and the operator panel display all diamonds?	Go to **"Operator panel LCD/ status LED/ buttons service check" on page 2-125**	Go to step 2
2	DC power to system board - Turn the power off and disconnect the LVPS cable to J35 on the system board. Turn the power on and check the following voltages on the LVPS cable: J35-1 +3.3 V dc J35-2 +3.3 V dc J35-3 +5 V dc J35-4 +5 V dc J35-5 +24 V dc J35-6 +24 V dc J35-7 +24 V dc J35-8 +3.3V dc J35-9 Ground J35-10 Ground J35-11 Ground J35-12 Ground J35-13 Ground J35-14 Ground J35-15 Ground J35-16 Ground **Note**: All voltages are approximate values. Are the voltages correct?	Go to step 3	Replace the **"LVPS assembly" on page 4-46**
3	Unplug all cables from the system board, except J6, J35, J37. See **"System board - non-network" on page 5-6** or **"System board - network" on page 5-7**. Does the printer power up and display a message?	Go to step 4	Replace the **"System board" on page 4-72**.

Step	Actions and questions	Yes	No
4	Turn off the printer and plug in the cable for the component that is related to the error presented. For example, for the 114 Service Printhead error, plug in the black printhead J11 and J12. Use connector locations on **“System board - non-network” on page 5-6** or **“System board - network” on page 5-7**. Repeat this step until the original DC power problem occurs. Does the DC power problem occur?	Check the cable and component that was last connected to system board for short.	If printer comes to Ready, connect the remaining cables and print.

Autocompensator service check

- If the paper fails to feed from Tray 1 or 500-sheet option, go to **“Step A” on page 2-107**.
- If the autcompensator fails to lower when Tray 1 is installed, go to **“Step B” on page 2-108**.
- If the autocompensator fails to retract when you attempt to remove Tray 1, go to **“Step C” on page 2-108**.
- If there is no indication that the media is out or low, go to **“Step D” on page 2-109**.

Note: When feeding paper through the printer to check for autocompensator problems, use the Tray 1 Feed test in the Diagnostics Menu. A printed copy is not required.

Step A

Step	Action and questions	Yes	No
1	Use the tray 1 feed test to feed paper from tray 1. Check to see if the pick rolls are turning. **Note**: Observe the pick rolls by opening the lower jam access door assembly. Do the pick rolls turn?	Go to step 2	Go to step 3
2	Check the autocompensator pick rolls for contamination or damage to the rolls. Is there any excessive contamination or damage to the pick rolls?	Replace the pick rolls. Always replace both pick rolls at the same time.	Go to step 3
3	Verify the autocompensator is not stuck in the up position. Verify the output clutch assembly is not damaged. Is the autocompensator stuck or the output clutch damaged.	Dislodge the autocompensator assembly. If this does not fix the problem, go to step 4.	Replace the **“Autocompensator pick assembly” on page 4-20**.
4	Check the voltages at J25-9 and J25-10 on the system board. Are the voltages correct?	Replace the **“Autocompensator pick assembly” on page 4-20**	Replace the **“System board” on page 4-72**

Step B

Step	Action and questions	Yes	No
1	Check Tray 1 for damage to the pick arm lift bellcrank activation tabs on the rear of the tray. Is there any damage to the tray?	Replace tray 1	Go to step 2
2	Check the following parts for damaged, loose, or missing parts. • Pick arm lift bellcrank • Bellcrank lift spring • Tray interlock bellcrank Are any of the parts broken, loose, or missing?	Repair or replace parts as necessary	Go to step 3
3	Verify the autocompensator is not stuck in the up position (tires or hub caught on the upper deflector)	Dislodge the autocompensator assembly.	Replace the **“Autocompensator pick assembly” on page 4-20**.

Step C

Step	Action and questions	Yes	No
1	Can you remove Tray 1 from the printer?	Go to step 3	Go to step 2
2	Open the lower jam access door and carefully lift the autocompensator assembly until it is in its uppermost position, and carefully try to remove tray 1. Can you remove Tray 1?	Go to step 3	Determine what is causing the tray to stay in a locked position. Repair as necessary
3	Check Tray 1 for damage to the pick arm lift bellcrank activation tabs on the rear of the tray. Is there damage to the tray?	Replace tray 1	Go to step 4
4	Check for loose or broken parts on the autocompensator assembly. Are there loose or broken parts?	Replace the autocompensator assembly	Go to step 5
5	Check the following parts for any signs of damaged or broken parts. • Pick arm lift bellcrank • Pick arm bellcrank lift spring Are there any damaged or broken parts?	Repair or replace parts as necessary	Determine what is causing the autocompensator to stay in the down position. Repair as necessary.

Step D

Step	Action and questions	Yes	No
1	Enter the Diagnostics Mode and select **INPUT TRAY TESTS, Sensor Test,** and **Tray 1**. You can activate the paper level sensor inside the printer. The paper level sensor is a dual sensor and checks the following levels for Tray 1. The Tray 1 level sensor is a dual sensor assembly that senses when tray 1 is empty, nearly empty, or partially empty. Does the Sensor Test pass?	Call your next level support	Go to step 2
2	Paper level sensing assembly - Make sure the assembly is not loose or damaged. Make sure the bellcrank is not broken. Are any parts loose or broken?	Repair or replace parts as necessary	Go to step 3
3	Check the paper level sensing cable for correct installation at J25 on the system board and to the paper level sensing dual sensor assembly. Is the cable connected correctly?	Go to step 4	Install the cable correctly
4	Check the paper level sensing assembly flag for correct installation and the flag is not broken or damaged. Is the paper level sensing assembly installed correctly and the flag not broken or damaged?	Go to step 5	Install correctly or replace the flag if damaged or broken
5	Check continuity of the paper level sensing cable. Is there continuity?	Go to step 6	Replace the level sensing cable
6	Check the voltage at J25. It should measure approximately +5 V dc. Is the voltage correct?	Replace the level sensing assembly	Replace the **"System board" on page 4-72**

Black only retract (BOR) service check

Step	Action and questions	Yes	No
1	Using the toggle ITU function in diagnostics Mode, test the BOR system. Remove the print cartridges and watch the belt while activating the toggle function. Does the ITU belt move up and down when the ITU is toggled?	Go to **"Print quality service check" on page 2-130**.	Go to step 2
2	Remove the ITU. Locate the BOR gear and manually activate the gear. Verify that the front and back BOR cams are moving the respective bell cranks. Do the cams move back and forth properly?	Replace in the following order: 1. **"BOR drive assembly" on page 4-28**. 2. **"System board" on page 4-72**.	Determine which component is preventing the proper movement.

Close door/HVPS/printhead interlock switch service check

Note: There are two separate cables that contain microswitches and a cable. These cable/switches provide separate interlocks for the printhead and HVPS. One switch in the Printhead/cover open cable is mounted in the front access door support and the other switch in the printhead/open cover cable is mounted on the ITU light shield assembly. The HVPS/cover open cable only has one switch mounted on the front access door support and is routed through the ITU autoconnect. The HVPS/cover open cable is connected to J28 on the system board and the printhead/cover open cable is connected to J10 on the system board.

POR incomplete, Close Door constantly displays

This symptom is usually associated with the lower switch mounted on the front access door support and with the switch mounted in the ITU light shield.

Note: When the printer is powered on for some time with this symptom displayed, the printer may then display a 902 Service Error.

Step	Action and questions	Yes	No
1	Make sure that the ITU light shield is not out of position. Is the ITU light shield out of position?	Properly align the ITU light shield	Go to step 2
2	Make sure the ITU assembly interlock switch actuator is not damaged or broken and actuates the switches correctly. Is the actuator damaged or broken?	Replace the **"ITU assembly" on page 4-44**	Go to step 3
3	Front cover assembly Does the front cover close correctly?	Go to step 4	Install the front cover correctly or repair as necessary
4	Front cover assembly Make sure the front cover flag is not broken or damaged and actuates the switches correctly. Is the flag broken or damaged?	Replace the **"Front cover assembly" on page 4-14**	Go to step 5
5	Printhead/cover open interlock cable assembly Make sure that the cable is correctly connected to J10 on the system board. Is the cable connected correctly?	Go to step 6	Install the cable correctly
6	Make sure the front cover is closed and the ITU is correctly installed. Disconnect J10 from the system board and check for continuity between pins J10-1 and J10-3. Do you measure continuity?	Replace the **"System board" on page 4-72**	Replace the printhead interlock cable/ switch assembly (see **"Printhead interlock cable assembly" on page 7-22** for the part number.)

POR complete, printer feeds blank page

This symptom is usually associated with the upper switch mounted on the front access door support.

Step	Action and Questions	Yes	No
1	Make sure that the ITU light shield is not broken. Is the ITU light shield broken?	Replace the ITU light shield	Go to step 2
2	Make sure that the ITU light shield is not out of position. Is the ITU light shield out of position?	Properly align ITU light shield	Go to step 3
3	Make sure the ITU assembly interlock switch actuator is not damaged or broken and actuates the switch correctly. Is the actuator damaged or broken?	Replace the **"ITU assembly" on page 4-44**	Go to step 4
4	Front cover assembly Does the front cover close correctly?	Go to step 5	Install the front cover correctly or repair as necessary
5	Front cover assembly Make sure the front cover flag is not broken or damaged and actuates the switches correctly. Is the flag broken or damaged?	Replace the **"Front cover assembly" on page 4-14**	Go to step 6
6	HVPS/cover open interlock cable assembly to system board - Make sure that the cable is correctly connected to J28 on the system board and the ITU autoconnect is seated correctly. Is the cable connected correctly?	Go to step 7	Install the cable correctly
7	HVPS/cover open interlock cable assembly - Make sure the front cover is closed and the ITU is correctly installed. Disconnect the switch cable from J28 on the system board. Check for continuity between J28-1 and J28-2 on the cable connector. Is there continuity?	Replace the **"System board" on page 4-72**	Replace the HVPS/cover open interlock switch/cable assembly (see **"Printhead interlock cable assembly" on page 7-22** for part number.)

Duplex option service check

Before proceeding with this service check:

1. Check for any pieces of media or obstructions in the duplex paper path that might cause a paper jam.
2. Check for correct installation of the front duplex jam tray and right side clearance tray.
3. Check the duplex option for any signs of loose, damaged, contaminated, or warped parts that might cause a jam.

Duplex not recognized as being installed

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Is duplex option the only option installed beneath the base printer?</td><td>Go to step 3</td><td>Go to step 2</td></tr>
<tr><td>2</td><td>Except for the duplex option, remove any other paper options installed beneath the base printer.
Does the printer recognize the duplex option as being installed?</td><td>The problem is in one of the option(s) that is installed beneath the printer. Try to isolate which of the options is causing the problem.</td><td>Go to step 3</td></tr>
<tr><td>3</td><td>Make sure the duplex option is correctly installed.
Is the duplex option installed correctly?</td><td>Go to step 4</td><td>Install the duplex option correctly</td></tr>
<tr><td>4</td><td>Make sure the bottom options cable connector is snapped firmly into the bottom of the base machine.
Is the cable connector mounted correctly?</td><td>Go to step 5</td><td>Install the cable correctly</td></tr>
<tr><td>5</td><td>Make sure the bottom options cable is installed correctly to system board connector J37.
Is the cable installed correctly?</td><td>Go to step 6</td><td>Install the cable correctly</td></tr>
<tr><td>6</td><td>Check the voltages on connector J37 on the system board. The voltages are measured with the printer in standby mode:
<table><tr><td>Connector pin</td><td>Voltage</td></tr><tr><td>J37-1</td><td>+5 V dc</td></tr><tr><td>J37-2</td><td>Ground</td></tr><tr><td>J37-3</td><td>Ground</td></tr><tr><td>J37-4</td><td>+5 V dc</td></tr><tr><td>J37-5</td><td>+24 V dc</td></tr><tr><td>J37-8</td><td>+5 V dc</td></tr><tr><td>J37-7</td><td>+5 V dc</td></tr></table>
Note: All voltages are approximate values.
Are the voltages correct?</td><td>Go to step 7</td><td>Replace the system board</td></tr>
</table>

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>7</td><td>Check the voltages on the bottom options cable connector. The voltages are with the printer in standby mode.
Note: All voltages are approximate values.
<table><tr><td>Connector pin</td><td>Voltage</td></tr><tr><td>J37-1</td><td>+5 V dc</td></tr><tr><td>J37-2</td><td>Ground</td></tr><tr><td>J37-3</td><td>Ground</td></tr><tr><td>J37-4</td><td>+5 V dc</td></tr><tr><td>J37-5</td><td>+24 V dc</td></tr><tr><td>J37-7</td><td>+5 V dc</td></tr><tr><td>J37-8</td><td>+5 V dc</td></tr></table>Are the voltages correct?</td><td>Go to step 8</td><td>Replace the bottom options cable in the printer</td></tr>
<tr><td>8</td><td>Make sure the upper options cable in the duplex option is installed correctly in the duplex frame.
Is the cable installed correctly?</td><td>Go to step 9</td><td>Correctly install the cable. If the connector is damaged, replace the cable assembly.</td></tr>
<tr><td>9</td><td>Make sure the upper options cable in the duplex option is connected correctly to J11 on the duplex options board.
Is the cable connected correctly?</td><td>Go to step 10</td><td>Install the cable correctly</td></tr>
<tr><td>10</td><td>Check continuity of the upper duplex options cable.
Is there continuity?</td><td>Replace the duplex options board</td><td>Install the cable correctly</td></tr>
</table>

Top margin on duplexed copy set incorrectly

Go to **“Duplex Quick Test” on page 3-24** to adjust the top margin on the back of the duplexed page.

Envelope feeder option service check

Note: Except for the tray and pick tires, the envelope feeder option is a complete assembly with no other internal parts that can be replaced.

If a 24x paper jam (x=envelope feeder) is displayed, go to **“Envelope feeder” on page 2-77**.

The printer does not recognize that the envelope feeder option is installed

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Is the envelope feeder option the only option that is not recognized?</td><td>Go to step 2</td><td>Go to step 6</td></tr>
<tr><td>2</td><td>Are the other options that are not recognized installed below the envelope feeder?</td><td>Replace the envelope feeder option</td><td>Go to step 3</td></tr>
<tr><td>3</td><td>Make sure the printer and any option installed above the envelope feeder option is installed correctly.
Is the option installed above the envelope feeder installed correctly?</td><td>Go to step 4</td><td>Install the printer or options correctly and recheck performance</td></tr>
<tr><td>4</td><td>Check for the correct installation of the lower options autoconnect cable for the system board connector J37.
Is the cable installed correctly?</td><td>Go to step 5</td><td>Install the cable correctly and recheck performance</td></tr>
<tr><td>5</td><td>Autoconnect cable - Check the autoconnect from the printer or option installed above the envelope feeder. Check for cuts, pinched wiring, or damage to the contacts in the connector.</td><td>Go to the service check for the option mounted above the envelope feeder</td><td>Replace the envelope feeder</td></tr>
<tr><td>6</td><td>Disconnect the autoconnect cable from J37 on the printer system board. Measure the voltages on J37, the voltages are approximate values and should measure:
<table>
<tr><th>Connector pin</th><th>Voltage</th></tr>
<tr><td>J37-1</td><td>+24 V dc</td></tr>
<tr><td>J37-2</td><td>Ground</td></tr>
<tr><td>J37-4</td><td>+5 V dc</td></tr>
<tr><td>J37-5</td><td>+5 V dc</td></tr>
<tr><td>J37-7</td><td>+5 V dc</td></tr>
<tr><td>J37-8</td><td>+5 V dc</td></tr>
</table>
Are the voltages correct?</td><td>Go to step 7</td><td>Replace the system board</td></tr>
<tr><td>7</td><td>Check continuity of the autoconnect cable.
Is there continuity?</td><td>Replace the envelope feeder option</td><td>Replace the autoconnect cable</td></tr>
</table>

Envelopes do not feed from the tray or do not feed correctly

Step	Action and questions	Yes	No
1	Check the envelope feeder tray to make sure it is installed correctly. Is the tray installed correctly?	Go to step 2	Install the tray correctly
2	Check the tray to make sure it has been setup correctly for the size of envelopes being used. Has the tray been setup correctly?	Go to step 3	Set the tray up correctly
3	Check the tray for any signs of broken or damaged parts. Are there any signs of damage to the tray or parts in the tray?	Replace the envelope feeder tray	Replace the envelope feeder option

Finisher service check

If a failure is detected by the system board, an error may be displayed. The LEDs on the HCOF system board can help in diagnosing the errors.

HCOF error code table

LEDs lit by number								Description
33	**34**	**35**	**36**	**37**	**38**	**39**	**42**	
							x	Error detected by Punch Timing Sensor
						x		Error detected by Inverter Jam Sensor
						x	x	Error detected by Drop Timing Sensor
					x			Error detected by Exit Timing Sensor
					x		x	Error detected for the Jogger Motor
					x	x		Error detected for the Punch Motor
					x	x	x	Error detected for the Stapler Motor
				x				Error detected for the Belt Motor
				x			x	Error detected for the Tray Motor
				x		x		HCOF detects the front door is open
				x		x	x	Error detected with the communications to the printer
				x	x			Error detected for the Offset Motor
				x	x	x		Tray Near Full is detected
				x	x	x	x	Tray Full is detected
			x					Error detected with Stapler - Stapler not mounted correctly
			x				x	Error detected with Stapler - Stapler Cartridge not installed correctly
			x			x		Error detected with Stapler - runs short
			x			x	x	Error detected with Punch Timing Sensor - media not reaching sensor
			x		x			Error detected with Inverter Jam Sensor - media not reaching sensor
			x		x		x	Error detected with Drop Timing Sensor - media not reaching sensor
			x		x	x		Error detected with Exit Timing Sensor - media not reaching sensor
			x		x	x	x	Error detected with Chad Box - box full

Check Finisher displayed, unable to clear message

Step	Action and questions	Yes	No
1	Check for correct printer and finisher installation. Make sure the magnetic bracket is mounted on the printer. Is the magnetic bracket mounted?	Go to step 2	If not installed, install the bracket
2	Is the pin on the magnetic bracket actuating the joint switch in the finisher?	Go to step 3	Find out why the pin is not actuating the switch and repair as necessary
3	Check the joint switch cable connection to CN19 on the finisher system board. Is the cable installed correctly?	Go to step 4	Install the cable correctly
4	Check the joint switch activating spring for any signs of damage. Is the switch activating spring broken?	Replace the joint switch assembly	Go to step 5
5	Check the joint switch for correct operation. The switch can be checked by measuring continuity while actuating the switch. Is the switch operating correctly?	Go to step 6	Replace the joint switch assembly
6	Check continuity of the joint switch cable. Is there continuity?	Replace the finisher system board	Replace the cable

Finisher is inoperative, or not recognized

This problem can be caused by a problem with the autoconnect system between the finisher and the printer. It also can be caused by a problem with the power system in the finisher.

Step	Action and questions	Yes	No
1	Check the AC line cord to the finisher to make sure the options and printer are connected properly. Are the printer and options AC line cords connected properly?	Go to step 2	Connect the printer and options correctly
2	Make sure the communications cable from the finisher to the printer is installed correctly at the output options autoconnect on the printer. Is the cable installed correctly?	Go to step 3	Install the cable correctly
3	Disconnect the autoconnect cable from J2 on the system board. Check the resistance between J2-6 and J2-7 on the cable connector. The resistance measures between 45 ohms and 50 ohms. Is the resistance correct?	Go to step 6	Go to step 4
4	Make sure the communications cable is connected properly to CN3 on the LVPS relay board. Is the cable installed correctly? **Note**: The relay on the relay board is connected to +5 V dc from the printer through the communications cable. When the printer is powered on, +5 V dc is sent to the finisher relay board relay coil which energizes the relay and connects primary AC line voltage to the LVPS.	Go to step 5	Install the cable correctly
5	Check the resistance of the relay coil by measuring between CN3-1 and CN3-2 on the relay board. The resistance measures between 45 ohms and 50 ohms. Is the resistance correct?	Replace the communication cable	Replace the relay board/LVPS assembly
6	Check the voltage on the output options autoconnect connector Pin 2 located on the top right rear of the printer. The voltage measures approximately +5 V dc. Is the voltage correct?	Go to step 7	Go to step 10
7	Check the AC line voltage between CN2-1 and CN2-3 on the relay board. The line voltage should be within specifications for the AC power source the printer is connected to. Is there line voltage at CN2?	Replace the LVPS assembly	Go to step 8
8	Check the AC line voltage between CN1-1 and CN1-5 on the relay board. The line voltage should be within specifications for the AC power source the printer is connected to. Is there line voltage at CN1?	Replace the relay board assembly	Go to step 9
9	Check continuity of the AC line cord. Is there continuity?	Go to step 10	Replace the line cord

Step	Action and questions	Yes	No
10	Check the voltage at J2-5 on the system board. The voltage measures approximately +5 V dc. Is the voltage correct?	Replace the top options cable	Replace the system board

Front door is open, no indication on display

Step	Action and questions	Yes	No
1	Make sure the front door is activating the cover switch. Is the door activating the cover switch?	Go to step 2	Repair or replace the door assembly
2	Check door - door switch activating tab (broken or missing). Is the front door and door activating tab damaged, broken or missing?	Replace the front door assembly	Go to step 3
3	Check the front door magnetic latches to make sure the front door closes correctly. Are the magnetic latches functioning properly?	Go to step 4	Replace the magnetic latches
4	Check the front door switch cable connection to CN11 on the finisher system board. Is the cable connected correctly?	Go to step 5	Install the cable correctly
5	Check the continuity of the front switch as the switch is activated. Do you measure continuity?	Go to step 6	Replace the front door switch
6	Check continuity of the front door switch cable. Do you measure continuity?	Replace the finisher system board	Replace the front door switch cable D1

Fan in finisher inoperative

Step	Action and questions	Yes	No
1	Make sure the fan cable, H6, is correctly connected to CN21 on the finisher system board. Is the cable connected correctly?	Go to step 2	Install the cable correctly
2	Check the cable H6 connection to the fan assembly. Is the cable connected correctly?	Go to step 3	Install the cable correctly
3	Check the voltage between CN21-1 and CN21-2. The voltage measures approximately +24 V dc. Is the voltage correct?	Go to step 4	Replace the finisher system board
4	Check continuity of the fan cable H6. Do you measure continuity?	Replace the fan assembly	Replace cable H6

No indication that the chad box is full, no message

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Make sure the chad box is correctly installed in the finisher.
Is the chad box correctly installed?</td><td>Go to step 2</td><td>Install the chad box correctly</td></tr>
<tr><td>2</td><td>Make sure the chad box cable S5 is properly connected to CN5 on the finisher system board.
Is the cable properly connected?</td><td>Go to step 3</td><td>Install the cable correctly</td></tr>
<tr><td>3</td><td>Make sure the chad box cable is properly connected to the chad box sensor located above the box.
Is the cable properly connected to the sensor?</td><td>Go to step 4</td><td>Install the cable correctly</td></tr>
<tr><td>4</td><td>Check the chad box sensor with a voltmeter. Empty the chad box. Check the voltages on CN5. The voltages read the following approximate values with the chad box empty:<table><tr><td>Connector pin</td><td>Voltage</td><td></td></tr><tr><td>CN5-1</td><td>+5 V dc</td><td>+5 V dc supply</td></tr><tr><td>CN5-2</td><td>+5 V dc</td><td>sensor signal</td></tr><tr><td>CN5-3</td><td>0 V dc</td><td>Ground</td></tr></table>Are the voltages correct?</td><td>Go to step 5</td><td>Replace the finisher system board</td></tr>
<tr><td>5</td><td>Check the sensor by placing the chad box or a piece of paper in front of the sensor. As the chad box or piece of paper is moved away from the front of the sensor the voltage on CN5-2 should change from +5 V dc to 0 V dc.
Does the voltage change?</td><td>Problem solved</td><td>Replace the chad box sensor.</td></tr>
</table>

Chad Box Full message when chad box is not full

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Make sure the chad box is correctly installed in the finisher.
Is the chad box correctly installed?</td><td>Go to step 2</td><td>Install the chad box correctly</td></tr>
<tr><td>2</td><td>Check the chad box sensor with a voltmeter. Empty any material that is in the Chad Box. Measure the voltage on CN5-2. The voltage changes from approximately +5 V dc to 0 V dc as the sensor is activated.
Does the voltage change?</td><td>The sensor is working correctly</td><td>Replace the finisher system board</td></tr>
</table>

HCIT 2000-sheet option service check

HCIT system board LED error code table

If a failure is detected by the system board, an error code may be displayed. If the system board LED is on solid, the HCIT detects that the tray or side door is not closed.

The LED on the system board may blink. Count the number of times the LED blinks and use the following table to determine the problem.

LED blinks	Problem
1	Jam at registration sensor S2
2	Jam before the leading edge of the paper reaches the registration sensor S2
3	Paper jam is still detected in the HCIT after removing the jam
4	Paper jam is still detected even with front of jam door closed
5	Paper jam detected at pick sensor
6	Error detected with the tray
7	Error detected at the registration roller home position
8	Error detected at the pick roller home position sensor (S1)
9	Error detected with the lift motor - no motor lock or loss of lock
10	Not used
11	Communication error
12	Other error - Failure of the adjustment of the mirror reflection sensors or EEPROM initialization

Printer does not recognize that the HCIT 2000-sheet option is installed.

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>1</td><td>Is the HCIT 2000-sheet option the only paper input option that is not recognized?</td><td>Go to step 5</td><td>Go to step 2</td></tr>
<tr><td>2</td><td>Make sure that the printer and any option above the HCIT 2000-sheet option are installed correctly.
Are the printer and any options installed correctly?</td><td>Go to step 3</td><td>Install the options correctly and recheck performance</td></tr>
<tr><td>3</td><td>Check for correct installation of the lower options autoconnect cable to system board connector J37.
Is the cable to J37 installed correctly?</td><td>Go to step 4</td><td>Install the cable correctly and recheck performance</td></tr>
<tr><td>4</td><td>Disconnect J37 from the system board and check the voltages on connector J37 on the system board.
Note: All voltages are approximate values:
<table><tr><td>Connector pin</td><td>Voltage</td></tr><tr><td>J37-1</td><td>+5 V dc</td></tr><tr><td>J37-2</td><td>Ground</td></tr><tr><td>J37-4</td><td>+5 V dc</td></tr><tr><td>J37-5</td><td>+24 V dc</td></tr><tr><td>J37-7</td><td>+5 V dc</td></tr><tr><td>J37-8</td><td>+5 V dc</td></tr></table>Are the voltages correct?</td><td>Go to step 5</td><td>Replace the system board</td></tr>
<tr><td>5</td><td>Autoconnect cables - Check the autoconnect from the printer or option above the HCIT 2000-sheet option. Check for any signs of cuts, pinched wiring, or damage to the contacts in the connector.
Are there any problems with the autoconnect cables?</td><td>Repair or replace as necessary</td><td>Go to step 6</td></tr>
<tr><td>6</td><td>HCIT autoconnect cable - Check the HCIT autoconnect cable for correct installation at the HCIT system board.
Is the cable installed correctly?</td><td>Go to step 7</td><td>Install the cable correctly</td></tr>
<tr><td>7</td><td>HCIT autoconnect cable continuity - Check the continuity of the HCIT autoconnect cable(s).
Is there continuity?</td><td>Replace HCIT system board</td><td>Replace the HCIT autoconnect cable</td></tr>
</table>

HCIT inoperative

Before proceeding with this service check make sure the 2000-sheet tray option is properly connected to AC power.

- If a finisher is installed:
  The AC jumper should go from the HCIT to the finisher. The finisher AC power cord should attach to the AC voltage source. The base printer power cord should plug into the AC output connector on the HCIT.
- If a finisher is not installed:
  The printer power cord plugs into the HCIT AC outlet and the power cord from the HCIT plugs into the AC voltage source.

Note: Make sure the electrical outlet is working properly and all power cords are plugged in correctly. Make sure the slide switch on the LVPS is toward the right.

The system board status LED can be observed by removing the rear cover. The LED is mounted on the HCIT system board.

Step	Action and questions	Yes	No
1	Does the printer power up and work normally when plugged into the AC outlet on the HCIT?	Go to step 2	Go to step 5
2	Check the system board LED. Is it is on solid or blinking? • On solid means that the HCIT has detected the front door or side door open. • Blinking means that the system is operating. Is the LED on solid or blinking?	If the LED is on solid, check the front and side doors. If the LED is blinking, replace the HCIT system board	Go to step 3
3	Measure the voltage at TP3 (+5 V dc test point) on the HCIT system board. The voltage should measure approximately +5 V dc. Is the voltage correct?	Replace the HCIT system board	Go to step 4
4	Measure the voltage at CN2 pin 2 on the HCIT system board. The voltage should measure approximately +5 V dc. Is the voltage correct?	Replace the HCIT system board	Go to step 5
5	Check the AC line voltage at the input to the LVPS. Is the voltage correct?	Replace the HCIT LVPS	Go to step 6
6	Check the AC cable from the HCIT AC inlet to the LVPS. Are the cables good?	Determine where the AC line voltage is being lost to the HCIT. Repair as necessary.	Replace the cables

HCIT 2000-sheet option does not recognize the size paper selected.

Step	Action and questions	Yes	No
1	Make sure the media loaded in the tray meets specifications. Is the media loaded properly and meet specifications?	Go to step 2	Load the media properly or inform the customer that the media does not meet specifications
2	Check the paper tray guide for correct installation. Is the paper tray guide installed correctly for the selected paper size?	Go to step 3	Reinstall the guide if installed incorrectly
3	Check for correct installation of the paper size sensor cable to the HCIT system board at CN7. Is the cable installed correctly?	Go to step 4	Install the cable correctly.
4	Check for a broken, loose, or missing paper size sensor flag spring. Is a sensor flag spring broken, loose, or missing?	Reconnect the spring if it is loose. Replace the spring if broken or missing.	Go to step 5
5	Check the paper size sensor flag for sticking or broken parts. Is the paper size sensor flag sticking or broken?	Replace the paper size flag	Go to step 6
6	Check continuity of the sensor cable. Do you measure continuity?	Replace the sensor. If this does not fix the problem, replace the HCIT system board.	Replace the sensor cable

Fuser drive assembly noise check

Excessive fuser drive motor assembly noise

Step	Action and questions	Yes	No
1	Excessive noise from the fuser drive motor assembly - Check for correct installation of the fuser drive assembly. Is the fuser drive installed correctly?	Go to step 2	Correctly install the **“Fuser drive assembly” on page 4-37**
2	Install a new **“Fuser assembly” on page 4-35**. Is there still excessive noise from the fuser drive motor assembly?	Replace the **“Fuser drive assembly” on page 4-37**	Problem resolved.

Operator panel LCD/status LED/buttons service check

Use this service check to check both the operation of the panel buttons and to test the LCD display for correct operation.

- Replace the operator panel assembly if the LCD display functions normally, but the LED does not come on.
- If one or more of the operator panel buttons do not operate correctly, go to "Step A."

If any of the following symptoms occur, go to **"Step B" on page 2-135**.

- Operator panel LCD is blank/power on/status LED off
- Operator panel LCD is blank/power on/status LED on
- Operator panel LCD displays all diamonds/5 beeps/power on/status LED on

Step A

Step	Action and questions	Yes	No
1	Buttons Test - Perform the **"Button Test" on page 3-20**. Do any or all of the buttons fail to operate correctly? **Note**: If all the buttons fail to operate correctly, the LCD display is blank, power on status LED is on, and the printer beeps 5 times, go step B.	Replace the **"Operator panel" on page 4-53**	Test passes. No problem found

Step B

Note: Make sure the operator panel cable is seated firmly in J1 on the system board before proceeding with this step.

Step	Action and questions	Yes	No
1	LCD Test - Perform the **"LCD Test" on page 3-20**. Can you run the test?	Go to step 2	Go to step 4
2	LCD Test - Does the test pass?	Problem solved	Go to step 3
3	Operator panel - Is the operator panel operating correctly except for a few pels missing or broken?	Replace the **"Operator panel" on page 4-53**	Go to step 4
4	Operator panel assembly -Is the operator panel assembly completely blank and the power on status LED off?	Go to step 6	Go to step 5
5	Operator panel assembly - Is the operator panel assembly completely blank and the power on status LED on?	Go to step 10	Go to step 12
6	Does the printer *beep* 5 times?	Go to step 7	Replace the **"Operator panel" on page 4-53**
7	System board - Measure the voltage at connector J6-2 on the **"System board" on page 5-8**. The voltage measures approximately +5 V dc. Is the voltage correct?	Replace the **"Operator panel" on page 4-53**	Go to step 8

<table>
<tr><th>Step</th><th>Action and questions</th><th>Yes</th><th>No</th></tr>
<tr><td>8</td><td>Operator panel cable (operator panel connection) - Make sure that the operator panel cable is seated correctly in the connector on the operator panel board.
Is the cable seated correctly?</td><td>Go to step 9</td><td>Seat the cable correctly</td></tr>
<tr><td>9</td><td>Operator panel cable - Check continuity of the operator panel cable.
Is there continuity?</td><td>Replace the “System board” on page 4-72</td><td>Go to “Operator panel” on page 4-53 and replace the operator panel cable</td></tr>
<tr><td>10</td><td>System board - A poor ground connection between pin J6-4 on the operator panel board connector can cause this symptom. Check for continuity between pin J6-4 and ground on the board. Go to “System board” on page 5-8.
Is there continuity?</td><td>Go to step 11</td><td>Replace the “System board” on page 4-72</td></tr>
<tr><td>11</td><td>Operator panel cable - Check continuity of the operator panel cable.
Is there continuity?</td><td>Replace the “Operator panel” on page 4-53</td><td>Go to “Operator panel” on page 4-53 and replace the operator panel cable</td></tr>
<tr><td>12</td><td>Operator panel assembly - Does the operator panel display all diamonds, with the power on/status LED on and 5 beeps?</td><td>Go to step 13</td><td>Call your next level support</td></tr>
<tr><td>13</td><td>Voltage checks at system board connector J6 - Go to “System board” on page 5-8. Check the voltages on connector J6 as shown:
<table>
<tr><th>Connector pin</th><th>Voltage (display static)</th><th>Voltage (display active - LCD Test running)</th></tr>
<tr><td>J6-1</td><td>+5 V dc</td><td>Voltage varies 1.0 to 2.0 V dc</td></tr>
<tr><td>J6-2</td><td>+5 V dc</td><td>+5 V dc</td></tr>
<tr><td>J6-3</td><td>+5 V dc</td><td>Voltage varies 1.0 to 2.4 V dc</td></tr>
<tr><td>J6-4</td><td>Ground</td><td>Ground</td></tr>
<tr><td>J6-5</td><td>+5 V dc</td><td>+5 V dc</td></tr>
</table>
Are the voltages correct?</td><td>Replace the “Operator panel” on page 4-53</td><td>Go to step 14</td></tr>
<tr><td>14</td><td>Operator panel cable - Check continuity of the operator panel cable.
Is there continuity?</td><td>Replace the “Operator panel” on page 4-53</td><td>Go to “Operator panel” on page 4-53 and replace the operator panel cable</td></tr>
</table>

Output expander option service check

Note: The majority of the mechanical components can be observed during operation by removing the covers. The output expander functions without the covers installed. Make sure the option is correctly installed before attempting to service the unit.

Step	Symptoms	Yes	No
1	The printer does not recognize one or more output expander options as being installed.	Go to **"Printer does not recognize that one or more output options as being installed." on page 2-128**	Go to step 2
2	202 Paper Jam Open Rear Door message appears. A sheet of paper is jammed prior to the pass thru sensor flag or a sheet of paper feeds out to the standard bin even though bin *x* is selected. Paper exits half way out of the redrive.	Go to **"202 Paper Jam" on page 2-71**	Go to step 3
3	Remove paper - Output Bin *x* is displayed, POST is incomplete, unable to clear the message.	Go to **"Remove Paper - Output Bin x is displayed, POST is incomplete unable to clear the message." on page 2-128**	Go to step 4
4	271 Paper Jam - Check Bin *x*, POST incomplete.	Go to **"POST incomplete" on page 2-81**	Go to step 5
5	271 Paper Jam - Check Bin *x*, POST complete, first sheet of paper feeds into output bin *x*.	Go to **"271 Paper Jam - check bin 1" on page 2-80**	Go to step 6
6	No indication that bin *x* is full *OR* No indication that bin *x* is near full.	Go to **"No indication that bin x is full or no indication that bin x is near full." on page 2-129**	Go to step 7
7	990 Service - Bin *x*	Go to **"For 990 Service Error - Tray x, x=Tray 2, 3, 4 or 5, this is the tray that has a problem or needs service." on page 2-96**	Call your next level support

Printer does not recognize that one or more output options as being installed.

Step	Actions and questions	Yes	No
1	Excessive static electricity buildup - Check the output expander control board cover to make sure the ESD brush ground lead is firmly attached to the output expander frame. Make sure the ESD brush is not loose or damaged. is the ESD brush ground cable correctly installed and the ESD brush not loose or broken?	Go to step 2	1. Attach the ground cable if not installed correctly. 2. Replace the cover assembly if the ESD brush is loose or damaged.
2	Output expander assembly mechanical linkage (cables) - check the output expander autoconnect cable and connector for any signs of damage, especially the connector pins. Are there any signs of damage to the cable, connector, or connector pins?	Replace the autoconnect cable	Go to step 3
3	Output expander assembly mechanical linkage (electrical) - Check the cables at J1A, J1B, J2A and J2B on the control board to make sure they are attached securely and correctly. Are the cables attached securely and correctly?	Go to step 4	Reseat the cables
4	Voltage check, base printer autoconnect connector - Turn the power off and remove the output expander option from the printer and check the voltages on the base printer top autoconnect connector. Go to **“Connectors” on page 5-6**. Are the voltages correct?	Go to step 5	The problem is in the base printer. Check autoconnects in the printer.
5	Voltage check, output expander system board - Reinstall the output expander option and check the voltages at J1A and J1B on the connector. Are the voltages correct?	Replace the output expander option system board	Replace the output expander option mechanical linkage assembly

Remove Paper - Output Bin *x* is displayed, POST is incomplete unable to clear the message.

Step	Actions and questions	Yes	No
1	Output sensor flag check - Check the flag for correct operation, binds, broken parts, or interference from the sensor cable. Is there a problem with the sensor flag?	Replace the flag or repair as necessary	Go to step 2
2	Output bin sensor -Run the sensor test to check the Output bin sensor for correct operation. Does the sensor operate correctly?	Call your next level support	Replace the sensor assembly. If this does not fix the problem replace the **“System board” on page 4-72**.

No indication that bin *x* is full or no indication that bin *x* is near full.

Step	Actions and questions	Yes	No
1	Sensor cable installation - Check for correct installation of the sensor cable at J5 on the control board. Is the cable installed correctly?	Go to step 2	Install the cable correctly
2	Dual output bin *x* sensor assembly Do either the bin *x* full or the bin *x* near full sensor fail the sensor test?	Go to step 3	Call your next level support
3	Voltage - Check the voltages at J5-3 and J5-4. The voltages should measure approximately +5 V dc. Are the voltages correct?	Replace the sensor	Replace the control board

Problems with excessive static electricity buildup.

Step	Action and Questions	Yes	No
1	Excessive static electricity buildup. Front cover assembly - check the front cover assembly to make sure the ESD brush ground lead is firmly attached to the Output Expander frame or the ESD brush is not loose or damaged. Is the ESD brush ground cable correctly installed and is the ESD brush loose or broken?	Make sure the brush is contacting the media being fed through the option	1. Attach the ground cable if not installed 2. Replace the cover assembly if the ESD brush is loose or damaged

Print quality service check

Note: This symptom may require replacement of one or more CRUs (Customer Replaceable Units) designated as supplies or maintenance items, which are the responsibility of the customer. With the customer's permission, you may need to install an ITU, fuser assembly, second transfer roll, or print cartridge.

Check the following before proceeding with any of the print quality service checks.

- Use tray 1 (internal tray) to test the print quality of the base printer.
- Be sure the fuser assembly is installed correctly.
- Be sure the ITU assembly is installed correctly.
- Be sure the second transfer roll is installed correctly.
- Check the media in tray 1 to make sure it meets paper specifications.
- Run a copy of the CE Test page. This sets all the printer defaults to the correct settings to check for print quality.
- If a specific color has a print quality problem, first try a new cartridge to help isolate the problem.

An incorrect printer driver for the installed software, can cause print quality problems. Incorrect characters could print and the copy may not fit the page correctly.

Note: Some 201 Paper Jam errors can be caused by a faulty print cartridge.

Blank page (no image)

- If there is no image (blank page) and no error codes displayed, go to step 1.
- If there is no image (blank page) but error codes are displayed, go to **“Sub error code table” on page 2-18** and perform the necessary action.

Step	Action and questions	Yes	No
1	Second transfer roll - Make sure the second transfer roll is installed and correctly installed. Is the second transfer roll correctly installed?	If a second transfer roll is not installed, install a new one.	Go to step 2
2	Second transfer roll release lever - Make sure the second transfer roll release Lever is not stuck in the down position. Check for broken or damaged parts. Is the second transfer roll release lever operating correctly?	Go to step 3	Repair as necessary
3	Check continuity of the second transfer roll to the transfer HVPS cable. Is there continuity?	Replace the **“Transfer HVPS board” on page 4-73**	Replace the cable

Entire page is mostly one color—Full bleed planes in one color

Some printing may appear in other colors. This applies to black, cyan, magenta and yellow.

Step	Action and questions	Yes	No
1	Using a piece of paper, block the laser path between the printhead and cartridge for the color that is experiencing the full bleed issue.	Go to step 2	Go to step 4
2	Turn the printer off. Check the cable connections between the printhead and the system board. Does the issue still persist?	Go to step 3	Problem solved
3	Use the **"Printhead diagnostics" on page 3-1** and the **"Card assembly, printhead diagnostic aid" on page 7-13** to switch video cables between the printhead of the full bleed color and another color. Does the color of the full bleed plane stay the same?	Replace the printhead (see **"Printhead removal and adjustments" on page 4-60**.)	Replace the **"System board" on page 4-72**.
4	Change or switch the cartridge of the color that is experiencing the issue. Does the issue persist?	Go to step 5	Replace the cartridge.
5	Cartridge contact assembly - Check the cartridge contact block. Make sure the PC drum contact pin is not stuck. See **"Cartridge contact assembly pin locations (cyan, magenta and yellow)" on page 5-4** to identify the PC drum contact pin. Does the pin operate correctly?	Go to step 6	Replace the **"Cartridge contact assembly" on page 4-29**.
6	Turn the printer off. Check the cable connections between the developer HVPS board and the system board. Does the issue persist?	Go to step 7	Problem resolved
7	Perform a continuity check on the developer HVPS cable. Does the cable check out?	Replace the FRUs in the following order: 1. **"Developer HVPS board" on page 4-31**. 2. **"System board" on page 4-72**.	Replace the developer HVPS cable.

Missing colors—Complete or partially missing color planes

- If a color or colors are missing, or a color is partially missing, go to **“If cyan, magenta, and yellow is missing, go to “Black and white only—cyan, magenta, and yellow are missing” on page 2-133.” on page 2-132**.
- If cyan, magenta, and yellow is missing, go to **“Black and white only—cyan, magenta, and yellow are missing” on page 2-133**.

Step	Action and questions	Yes	No
1	Print cartridge - Make sure the cartridge is seated properly and that all packing material has been removed from the cartridge. Has all packing material been removed? Is the cartridge seated correctly?	Go to step 2	Remove packaging and seat cartridge
2	Inspect each of the transfer roll bellcranks. Were any of the bellcranks broken?	Replace the broken bell cranks.	Go to step 3
3	Perform the partial print test. See **“Partial Print Test” on page 3-6**. Is the image well developed on the PC drum but the same plane is missing or faded on the ITU belt?	Go to step 4	Go to step 6
4	Turn off the printer. Check the cable connections between the transfer HVPS board and the system board. Does the issue persist?	Go to step 5	Problem resolved
5	Check continuity on the cable between the respective rear bellcrank and the lead on the transfer HVPS board. Is there continuity?	Replace in the following order: 1. **“Transfer HVPS board” on page 4-73** 2. **“Cartridge contact assembly” on page 4-29** 3. **“System board” on page 4-72**.	Replace the FRUs in the following order: 1. Cable 2. FTR spring.
6	Change or switch failing cartridge. Does the issue persist?	Go to step 7	Replace the cartridge.
7	Cartridge contact assembly - Check the cartridge contact block. Make sure the PC drum contact pin is not stuck. See **“Cartridge contact assembly pin locations (cyan, magenta and yellow)” on page 5-4** to identify the PC drum contact pin. Does the pin operate correctly?	Go to step 8	Replace the **“Cartridge contact assembly” on page 4-29**.

Step	Action and questions	Yes	No
8	Perform a continuity check on the developer HVPS cable. Does the cable check out?	Replace in order: 1. Developer HVPS board. See **“Developer HVPS board” on page 4-31**. 2. System board. See **“System board” on page 4-72**.	Replace the developer HVPS cable.

Black and white only—cyan, magenta, and yellow are missing

Step	Action and questions	Yes	No
1	Check the Print Mode setting in the Color Menu. Is the Print Mode set to **Black &White**?	Change the setting to **Color**.	Go to step 2
2	Ask the user or network administrator to check if the correct color driver is installed. Is the correct color driver installed	Install the correct color driver.	Go to **“Black only retract (BOR) service check” on page 2-109**.

Light print over the entire page

- If all colors have light print, go to **“All colors have light print over the entire page” on page 2-133**.
- If only one color has light print, go to **“One color has light print over the entire page” on page 2-134**.

All colors have light print over the entire page

Step	Action and questions	Yes	No
1	Replace the **“Second transfer roll” on page 4-71**. Does the light print persist?	Go to step 2	Problem resolved
2	Turn the printer off. Check the cable connections between the transfer HVPS board and the system board.	Go to step 3	Problem resolved
3	Check continuity on the cable between the rear second transfer roll arm and the 1 lead on the transfer HVPS board.	Replace the **“Transfer HVPS board” on page 4-73**.	Check the connection at the second transfer roll arm.

One color has light print over the entire page

Step	Action and questions	Yes	No
1	Print cartridge - Make sure the cartridge is seated properly and all packaging material is removed from the cartridge. Has all packaging material been removed and the cartridge seated correctly?	Go to step 2	Remove the packaging material and seat the cartridge.
2	Print cartridge - The cartridge may be out of toner. Change or switch the cartridge. Does the issue persist?	Go to step 3	Problem resolved
3	Cartridge contact assembly - Check the cartridge contact block. Make sure the PC drum contact pin is not stuck. See **“Cartridge contact assembly pin locations (cyan, magenta and yellow)” on page 5-4** to identify the PC drum contact pin. Does the PC drum contact pin move freely?	Replace the FRUs in the order shown: • **“Cartridge contact assembly” on page 4-29**. • **“Developer HVPS board” on page 4-31**.	Replace the **“Cartridge contact assembly” on page 4-29**.

Vertical lines or streaks

Step	Action and questions	Yes	No
1	Are the vertical streaks visible outside the printed image?	Go to step 2	Replace the cartridge.
2	Are the vertical streaks in a single color?	Go to step 3	Replace the **“ITU assembly” on page 4-44**.
3	Vertical streaks in a single color, which are visible outside the printed, are most likely caused by a cleaner problem in the print cartridge. Are streaks magenta, cyan, or yellow	Replace the cartridge.	Replace in order: • Black print cartridge • **“ITU assembly” on page 4-44**.

Horizontal lines or streaks

If the horizontal marks or lines repeat at evenly-spaced intervals, use the **“Print quality defect locator chart” on page 3-4** to determine the part to be replaced.

For lines or marks appearing at random intervals, go to step 1.

Step	Action and questions	Yes	No
1	Are the horizontal marks or lines in a single color?	Replace the cartridge.	Go to step 2

Step	Action and questions	Yes	No
2	Print cartridge(s) - Enter the Diagnostics Mode. Remove one print cartridge at a time and run a Test Page to isolate the faulty print cartridge. Have you isolated the failing print cartridge?	Replace the **"Cartridge contact assembly** for the failing color on **page 4-29**.	Go to step 3
3	Reseat the ITU. Do the marks/lines persist?	Go to step 4	Problem solved
4	Does the printer display an 83 ITU Maintenance message?	Recommend the customer order the ITU maintenance kit. See **"Scheduled maintenance" on page 6-4**.	Replace the **"ITU assembly" on page 4-44**.

Low image density

Note: If all colors have a low image density problem set the Print Darkness to High from the user's menu.

- If only one color has a problem, go to "Step A."
- If all colors have a problem, go to "Step B."

Step A

Step	Action and questions	Yes	No
1	Print cartridge - Make sure the print cartridge is seated correctly. Is the print cartridge seated correctly?	Go to step 2	Install the print cartridge correctly and recheck
2	The print cartridge may be out of toner. Try a new print cartridge. Does a new print cartridge fix the problem?	Problem solved	Replace the **"Transfer HVPS board" on page 4-73**

Step B

Step	Action and questions	Yes	No
1	Make sure that color calibration has not been disabled in the Diagnostics menus, especially if the printer has been previously serviced. Was color calibration disabled?	Set Color Calibration on	Go to step 2
2	Toner density calibration - Run toner density calibration from the Utility menu. Does this fix the problem?	Problem solved	Replace the **"Transfer HVPS board" on page 4-73**

Poor color alignment

Step	Action and questions	Yes	No
1	Print cartridge - Make sure that the print cartridges are properly inserted and are seated properly in their respective V blocks. Are the cartridges seated correctly?	Go to step 2	Install the cartridge(s) correctly
2	Front cover and cartridge contact block - Check the front cover and the cartridge contact block to make sure that all the springs and cartridge hold downs are present and correctly installed. Are all springs and cartridge hold downs present and correctly installed?	Go to step 3	Replace any missing or damaged springs or hold downs
3	ITU - Make sure that the ITU legs are properly seated onto the rail at the right side of the printer. This is visible by removing the yellow print cartridge. Is the ITU seated correctly?	Alignment - Enter the Diagnostics Menu. Perform the alignment for the color required. See **"ALIGNMENT MENU" on page 3-15**.	Reinstall the ITU. If the problem continues, replace the **"ITU assembly" on page 4-44**

Transparency print quality is poor

Step	Action and questions	Yes	No
1	Transparencies - Check the media type and transparency in use. Are the recommended transparencies and media type used?	Go to step 2	Inform the customer
2	Is the quality of the transparency poor or do brown colors appear when projected?	Go to step 3	Go to step 4
3	Fuser settings - From the Diagnostics Menu select fuser settings and set to high. Does this fuser setting fix the problem?	Problem solved	Replace the **"Fuser assembly" on page 4-35**
4	Does the transparency have a splotchy appearance?	Go to step 5	Replace the **"Second transfer roll" on page 4-71**
5	Transfer setting: High - From the Diagnostics Menu set Transfer setting to High. Does this transfer setting fix the problem?	Problem solved	Go to step 6
6	Transfer setting: Low - From the Diagnostics Menu set Transfer setting to Low. Does this transfer setting fix the problem?	Problem solved	Replace the **"Second transfer roll" on page 4-71**

Negative ghosting or faded image

The print has a negative ghost on the page or the image is faded, particular with text. This problem may happen with any color and can be mistaken as toner smudges on the page.

Step	Action and questions	Yes	No
1	Check the bellcranks of the color that is having the problem. Is a bellcrank broken or missing?	Replace the broken or missing bellcrank.	Got to step 2
2	Check each of the springs that attach to the bellcranks to make sure they are attached and not broken or missing. Are the springs for the color having the problem missing or unattached?	Repair or replace the spring as necessary.	Look for any signs of missing or damaged parts in the area of the color having the problem, including the ITU.

Residual image

- If only one color has a residual image repeated every 95 mm, replace the print cartridge.
- If all colors have a residual image 147 mm from the top of the page, replace the fuser assembly.
  Note: Do the following steps *before* you replace the fuser assembly:

  1. Check Media Type setting on the operator panel. If the setting is for light paper, select the correct setting for the current media type.
  2. If the problem continues, set the fuser temperature selection to High.
  3. If the problem continues, check the page count. If the page count is greater than 200K copies and the fuser has not been replaced, advise the customer to install a new fuser CRU or a maintenance kit.
     - If only one color has a residual image problem, go to **“Horizontal lines or streaks” on page 2-134**.
     - If all colors have a residual image problem, go to **“Residual image” on page 2-137**.

Uneven printing

- If all colors have uneven print, replace the ITU assembly.
- The uneven print may appear as spots or streaks that are different on each page. The most likely cause for this type of problem is damage to the ITU belt in the ITU assembly. Replace the **“ITU assembly” on page 4-44**.
- If only one color is missing or printing uneven, go to step 1.

Step	Action and questions	Yes	No
1	Print cartridge - Make sure the cartridge is seated properly and that all packing material has been removed from the cartridge. Has all packing material been removed? Is the cartridge seated correctly?	Problem solved	Go to step 2
2	Cartridge check - the cartridge may be out of toner or have another toner problem. Try a new toner cartridge. Does a new toner cartridge fix the problem?	Problem solved	Call your next level support

Toner smears or rubs off the page with no error code displayed

Note: This type of problem is associated with improper fusing or incorrect settings for media type being used.

Step	Action and questions	Yes	No
1	Media settings - Check to see if the printer is set for light paper. Is the printer set for light paper?	Set the printer for current media type and go to step 2	Go to step 3
2	Does resetting the media type fix the problem?	Problem solved	Go to step 3
3	Fuser settings - Set the fuser to High in the CE menu. Does setting the fuser to High fix the problem?	Problem solved	Replace the **"Fuser assembly" on page 4-35**

Smudged or distorted images on fused page

Step	Action and questions	Yes	No
1	Remove the ITU assembly and check for any signs of debris near the paper feed reference edge mechanism underneath the ITU assembly. Are there any signs of any debris in this location?	Remove the debris	Go to step 2
2	Check for any signs of debris on the surface of the ITU belt near the toner patch sensor (TPS) which is the white egg shaped device located on the front left corner of the ITU assembly. **Note:** When toner cartridges are replaced, small pieces of plastic may drop off of a toner cartridge and be deposited on the ITU belt. Are there any debris in this location?'	Remove the debris	Look for any signs of damage to the ITU belt. If found, replace the ITU assembly.

Toner is on the back of the printed page

Do the following steps before proceeding with this service check:

1. Enter the Diagnostics Mode.
2. Select **Print Test**, **Tray 1**, **Continuous** from the menu.
3. Run at least 20 pages of text and see if the problem remains.
   - If toner is still on the back of the printed page, proceed with this service check.
   - If the problem is on the top two inches of the page replace the second transfer roll.
   - If the toner is “stringy” over the top half of the page, go to step 1.

Step	Action and questions	Yes	No
1	Media settings - Check to see if the printer is set for light paper. Is the printer set for light paper?	Set the printer for current media type and go to step 2	Go to step 3
2	Does resetting the media type fix the problem?	Problem solved	Go to step 3
3	Fuser settings - Set the fuser to High in the CE menu. Does setting the fuser to High fix the problem?	Problem solved	Replace the **“Fuser assembly” on page 4-35**

Light lines or streaks appear on the page

Single color streaks outside the printed page are most likely caused by a problem in the print cartridge. Replace the print cartridge.

All the colors streaking at a different spot on each page is probably caused by a damaged ITU assembly. Replace the **“ITU assembly” on page 4-44**.

If only one color streaks in the printed area, go to step 1.

Step	Action and questions	Yes	No
1	Print cartridge check - Try a new print cartridge. Does a new print cartridge fix the problem?	Problem solved	Go to step 2
2	Printhead check -The printhead lens may be contaminated by toner. Check for any signs of contamination on the lens of the printhead. Is the printhead contaminated?	Go to Clear the printhead lens with a soft, lint-free cloth.	Call your next level support

White streak in color plane

A white streak appears in one particular color plane. This problem may be caused by a contaminated developer roll in the print cartridge.

Step	Action and questions	Yes	No
1	Check to see which color is having the problem and go to step 2.		
2	If another cartridge is available, try a new cartridge for the color having the problem. Do you have another cartridge to try?	Go to step 3	Go to step 4.
3	Does a new cartridge fix the problem?	Problem solved	Go to step 5
4	If another cartridge is not available, break the corresponding tabs off the cartridge in question as well as an adjacent color. The tabs are used to ensure that the cartridge is installed in the correct color station. Switch the two cartridges and print out a print sample to see if the streak stays with the cartridge and not the station. Does the streak change when you switch cartridges?	Replace the defective cartridge.	Go to step 5
5	Printhead check -The printhead lens may be contaminated by toner. Check for any signs of contamination on the lens of the printhead. Is the printhead contaminated?	Go to **"Printhead removal and adjustments" on page 4-60**	Call your next level support

Paper wrapped around the second transfer roll

Step	Action and questions	Yes	No
1	Some media can get wrapped around the second transfer roll and can affect print quality. Is there a piece of media wrapped around the second transfer roll?	Remove the piece of media and go to step 2.	Problem solved
2	Run several pages to see if the media wraps around the second transfer roll, again. Does the media wrap around the second transfer roll, again?	Replace the second transfer roll. If this does not fix the problem, call your next level of support for assistance.	Problem solved

Second transfer roll service check

Note: The second transfer roll is 51.03 mm (2.009 inches) in circumference. Any print quality problems such as lines that are spaced apart indicate you should check the second transfer roll for damage, toner, or foreign material.

Note: The second transfer roll is also part of the maintenance kit and should be replaced when a "83 ITU Maintenance" message appears. Ask the customer if they have replaced the second transfer roll recently.

Note: If any of the following problems occur, go to **"Print quality service check" on page 2-130**:

- A problem with only one color)
- Light or very light print

CAUTION: Make sure the printer is powered off before making any checks on the second transfer roll or associated parts for personal safety and to prevent damage to the printer.

Step	Actions and questions	Yes	No
1	Second transfer roll assembly - Check the second transfer roll for any signs of toner buildup, surface damage to the roll, oil, or other contaminants on the surface of the roll. Do you see any problems with the second transfer roll?	Replace the **"Second transfer roll" on page 4-71**	Go to step 2
2	Transfer arms, springs, and associated hardware - Call your next level of support. None of these parts are service related parts. Is there any problem with the associated hardware?	Call your next level support	Go to step 3
3	Transfer high voltage power supply, HV wiring, and contacts - Check the second transfer cable (transfer HVPS contact to the second transfer roll rear arm contact) for correct installation. Is the cable installed correctly?	Go to step 4	Install the cable correctly
4	Check the continuity of the second transfer cable. Is there continuity?	Replace the FRUs in order: 1) **"Second transfer roll" on page 4-71** 2)**"Transfer HVPS board" on page 4-73**. If this does not correct the problem, go to step 5.	Replace the second transfer cable
5	Make sure the ITU bias spring is not broken or missing for the color(s) that is having transfer problems. Is the ITU bias spring broken, off, or missing?	Repair as necessary	Go to step 7
6	Check the transfer HVPS to ITU HV transfer terminal for the color(s) that is having transfer problems. Is the cable disconnected or broken?	Reinstall or replace the cable	Go to step 7

Step	Actions and questions	Yes	No
7	Transfer terminal contact assembly and ITU transfer bellcrank - Check the transfer terminal contact, transfer cable, and ITU transfer bellcrank assemblies to make sure they are installed correctly, not loose, or broken. Are there any problems with the transfer terminal contact, transfer cable connection, or ITU transfer bellcrank assemblies?	Repair or replace as necessary. If this does not correct the problem, contact your next level support.	Replace the FRUs in order: 1)**"Transfer HVPS board" on page 4-73** 2) **"Second transfer roll" on page 4-71** 3)**"ITU assembly" on page 4-44**

Tray 1 service check

Tray 1 does not stay seated or fit correctly in the printer, the media fails to feed correctly from tray 1 or tray 1 is difficult to install

The Tray 1 Feed Test in the Diagnostics Menu can be used to help isolate problems with paper feeding from Tray 1.

Step	Action and questions	Yes	No
1	Check the following parts in Tray 1 for broken or missing parts. • Tray bias spring loose or missing • Tray bias bellcrank Are any parts broken, loose, or missing?	Repair or replace parts as necessary	Go to step 2
2	Make sure the autocompensator has fully retracted to its upper position. Does the autocompensator retract correctly?	Go to step 3	Go to **"Autocompensator service check" on page 2-107**
3	Check for any signs of damage to the paper tray guide. Is the paper tray guide damaged, loose or missing?	Replace the paper tray guide.	Go to step 4
4	Check the following parts for wear, damage, or missing parts. • Wear strips • Restraint pads • Wear clip • Side restraint • Back restraint and back restraint latch Are there broken, worn, or missing parts?	Repair or replace parts as necessary	Go to step 5
5	Check to make sure that the tray is correctly actuating the paper size switches on the paper size sensing board. Does the tray correctly actuate the paper size sensing switches?	Go to step 6	Go to the **"Tray 1 paper size sensing service check" on page 2-143**
6	Check for any signs of damage to the tray that might prevent it from actuating the switches. Is there any problem with the tray?	Replace the tray assembly	Go to step 7

Step	Action and questions	Yes	No
7	Check to see if there is anything in the printer that might be interfering with the tray being correctly installed. Is there anything in the printer that might cause the tray from installing correctly?	Repair as necessary	Replace the tray assembly.

Tray 1 paper size sensing service check

The printer does not sense the size of the media installed in Tray 1.

Note: If there is a problem when installing Tray 1, Tray 1 is difficult to remove or does not stay locked in position, go to **"Tray 1 service check" on page 2-142**.

Warning: Whenever the paper size sensing board is removed, customer settings in the NVRAM may be lost. The**"Motor Detect" on page 3-17** must be performed if the NVRAM contents are lost during the replacement of a paper size sensing board.

Step	Action and questions	Yes	No
1	Make sure tray 1 is installed and seated correctly in the printer. Is the tray correctly installed?	Go to step 2	Install tray 1 correctly. If there is still a problem, go to **"Tray 1 service check" on page 2-142**.
2	Is another 500-sheet tray available?	Go to step 3	Go to step 4
3	Try another 500-sheet tray in place of the internal tray 1 paper tray. Does this fix the problem?	Go to step 4	Go to the **"Tray 1 paper size sensing service check" on page 2-143**.
4	Check tray 1 for broken parts, especially the teeth on the back restraint. Is the back restraint broken or any of the teeth broken or missing?	Replace the back restraint	Replace the tray assembly.

3. Diagnostic aids

This chapter explains the tests and procedures to identify printer failures and verify repairs have corrected the problem.

There are different test menus that can be accessed to identify problems with the printer.

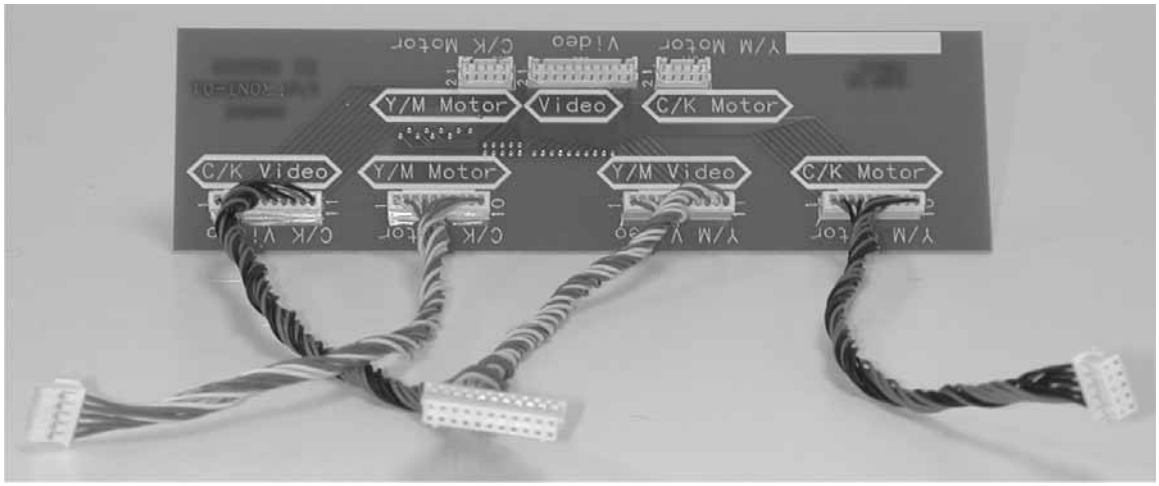
Diagnostic aids

Printhead diagnostics

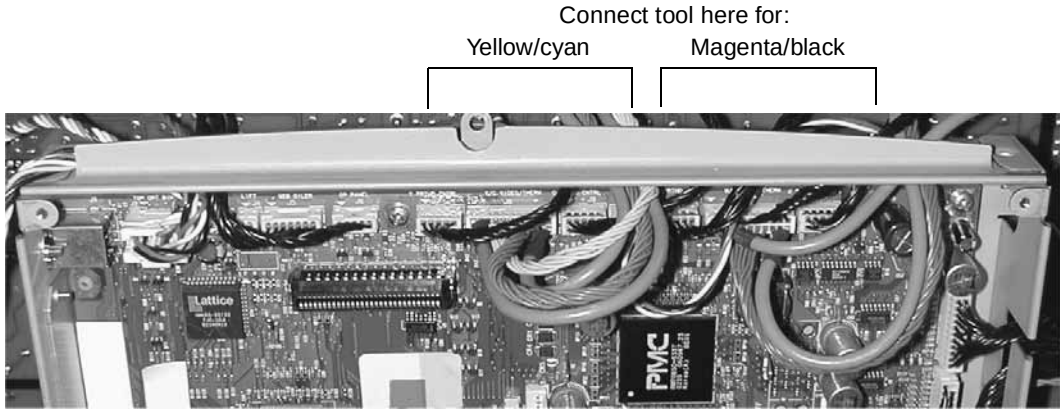
See **“Printheads” on page 7-13** for the part number.

If you get a printhead error, follow this diagnostic to find the specific failure.

1. Verify all the printhead cables are properly seated.
   If the printhead cables are properly seated and the error remains, record the error code. Continue to the next step.
2. Determine how to setup the printhead diagnostic tool.
   a. Verify the printhead diagnostic tool is configured as in the illustration below. Reconfigure if necessary.



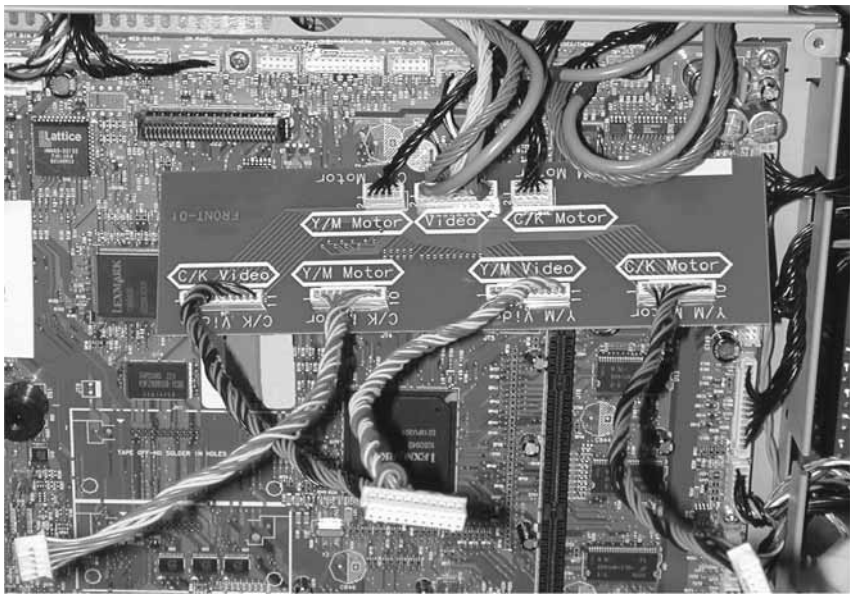
   b. Select which pair of printheads to use based on the error code.
   If the printer displays the codes that indicate yellow or cyan, use the tool to switch the yellow and cyan signals. If the error codes indicated a magenta or black error, use the tool to switch the magenta and black signals.



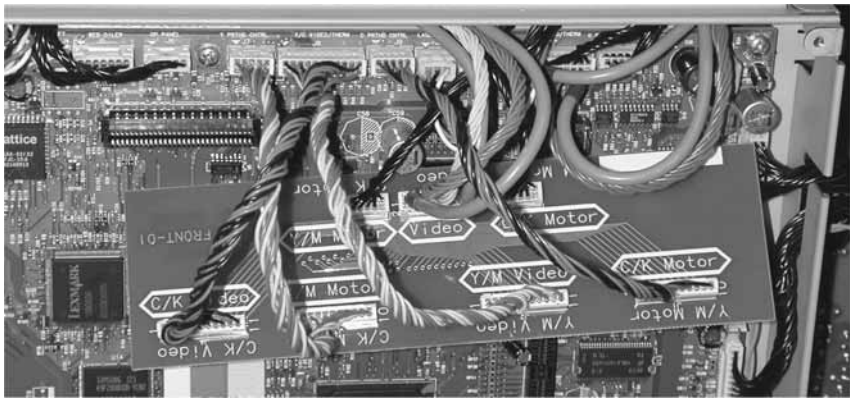
3. Install the printhead diagnostic tool and determine the problem.
The following procedure shows the yellow and cyan switch as an example.

a. Turn off the printer.

b. Unplug the printhead cables from the system board in the printer and connect them to the printhead diagnostic tool.



c. Connect the printhead diagnostic tool cables to the connectors on the system board in the printer. This reverses the printhead color signals for the selected pair of colors.



d. Turn on the printer and note the new error codes.

- If an automatic calibration begins, **36 Printer Service Required** may appear. The printhead and system board are working correctly and the printhead cable connections should be checked. Press **Go** to clear the error.
- If the error code remains the same, replace the system board. If that solves the problem, you are finished.
- If the printer displays a different printhead error code, which indicates another color, the printhead or the printhead cables are defective. See the table below for the printhead codes.

For example, the printer originally displays the printhead error code **108** (yellow). After switching the signals using the diagnostic tool, the printer displays the printhead error code **106** (cyan).

	Printhead error codes		Printhead error codes	
	Yellow	Cyan	Magenta	Black (K)
For 10x errors	108	106	107	109
For 11x errors	117	115	116	114
For errors 169–175	175	171	173	169
Not commonly seen	176	172	174	170

4. Remove the printhead diagnostic tool.

5. The problem is in either the printhead cables or the printhead. Replace the printhead cables. If the problem persists, replace the printhead. See **“Printhead removal and adjustments” on page 4-60**.

Note: Replace and adjust only one printhead at a time.

Print quality defect locator chart

The print quality locator chart is copied below, but the tool is a transparent sheet available with this printed book. Use the tables and rulers to determine the source of repeating defects.

Using the chart

Measure repeating horizontal lines from the reference lines at the top to determine what may have caused the lines to form in that pattern. Be sure to use portrait orientation for the test file.

Rollers

Component description	Component	Planes affected	Defect period	
			mm	inches
Charge roll	Cartridge	One	38.7	1.5
PC drum		One	96.8	3.8
PC cleaner		One	96.8	3.8
Developer roll		One	47.9	1.9
TAR		One	46.4	1.8
Toner meter		One	1092.2	43
Cart auger		One	349.9	13.8
First transfer roll	ITU	One	53.2	2.09
Second transfer roll	Second transfer roll	All	59.4	2.34
ITM drive roll	ITU	All	101.0	3.98
ITM reverse roll	ITU	All	50.5	1.99
Fuser hot roll	Fuser	All	147.0	5.79
Fuser BUR		All	147.0	5.79
Metering rolls	Reference Edge	All	47.0	1.85
Color charge roll short	C, M, or Y cart	C, M and Y	101.0	3.98

NIP shock

NIP distances	Defect period	
	mm	Inches
Y-C-M-K cartridge spacing	101.0	3.98
K to second transfer roll	144.6	5.69
M to second transfer roll	245.6	9.67
C to second transfer roll	346.6	13.65
Y to second transfer roll	447.6	17.62
Meter 1 to second transfer	164.8	6.49
Meter 2 to second transfer	126.4	4.98
Meter 3 to second transfer	86.4	3.40
Meter 4 to second transfer	51.4	2.02
Second transfer to fuser	319.4	12.57
Fuser nip to first redrive	50.0	1.97
Fuser nip to exit sensor	58.2	2.29
Fuser nip to exit tray nip	420.3	16.55

Printing the chart

The printer has an internal copy of the defect locator chart under the Help Menu. Verify the proper image size by measuring any of the marks on the chart and comparing them to the corresponding measurement in the chart. Use Step 2 if adjustments are needed.

Copying the chart

Use the provided transparent sheet if at all possible. If you need to make a copy, be aware that fax machines, digital scanners, and xerographic copiers can distort images. Charts should be printed using the transparent copy provided in the service manual. In order to maintain the accuracy of the edge rulers, the following steps should be heeded when printing a copy of the Defect Location Chart.

1. When printing this document, make sure “Fit to page” is not selected.
2. Measure the distance between the **Reference** line and the 110 mm **Calibration Mark** to verify that it is correct. If the distance is inaccurate, the bottom registration margin setting can be adjusted to correct the discrepancy. Increasing the bottom margin value stretches the image, reducing it shrinks the image. Original margin settings should be noted in the case that these changes adversely effect the print quality or registration when printing normal documents.

Print quality

For a transparency of the defect locator chart, go to the back of the hard copy service manual.

Note: If you want to copy the chart, then the following should be observed.

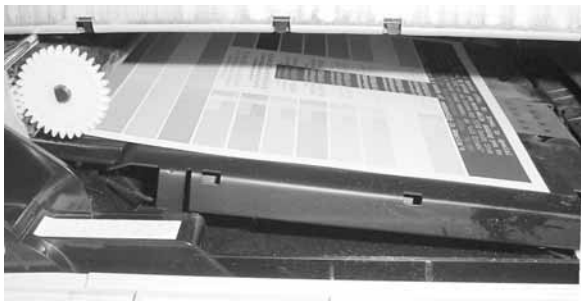
Since fax machines, digital scanners, and xerographic copiers can distort images, charts should be printed using the transparent copy provided in the service manual. In order to maintain the accuracy of the edge rulers, the following steps should be heeded when printing a copy of the Defect Location Chart.

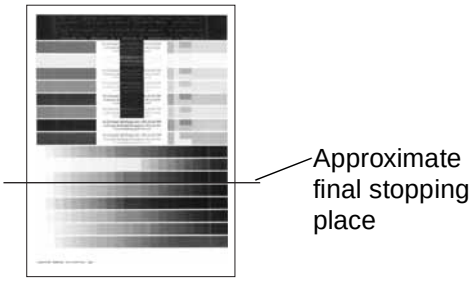
1. When printing this document, make sure “Fit the page” is NOT selected.
2. Measure the distance between the reference line and the 110 mm calibration mark to verify that it is correct. If the distance is inaccurate, the bottom registration margin setting can be adjusted to correct the discrepancy. Increasing the bottom margin value stretches the image, reducing the bottom margin value shrinks the image. Original margin settings should be noted in case these changes adversely effect the print quality or registration when printing normal documents.

Partial Print Test

Diagnostic procedure for missing or faded planes

1. Turn the printer off.
2. Remove all cartridges and the ITU.
3. Inspect the bellcranks.
4. Enter the Configuration Menu. See **"Configuration Menu" on page 3-8**.
5. Select **Prt Quality Pgs** and press **Select**.
6. Open the vacuum transport belt (VTB) jam access door and watch the test pages pass from left to right over the VTB.
   There is a delay between the first and second page.
7. Once the pages are printed, examine the pages for to confirm the color plane is not printing.
   Note: The third page is particularly important since it is the image on the belt when the test printed.
8. Select **Prt Quality Pgs** and press **Select**.
   Open the VTB through the access door and, once again, watch the test pages pass over the VTB.
9. When the top half of the second page passes over the VTB, quickly open the front cover. The printing stops.





10. Remove all four toner cartridges and set them face down.
    Look at the surface of each toner cartridge and check for a developed image.

Interpreting the results

If the developed images are not visible on one of the PC drums, the following components should be checked:

- Toner cartridge - Switch cartridges to determine if the problem stays with the slot or cartridge.
- Cartridge contact block pins - Verify that pins are spring loaded and properly positioned. See **“Cartridge contact assembly pin locations (cyan, magenta and yellow)” on page 5-4**
- Developer HVPS cable - Make sure that there is no damage to the cable running from the system board.
- Developer HVPS board.
- System board.

If the image is well developed on the PC drum, but the same plane is missing or faded on the ITU belt, the following components should be checked:

- Bell cranks - Check the condition of the bell cranks.
- Continuity on the bell crank circuit - Turn the printer off. Using a multimeter, check the continuity between the rear bell crank contact for the failing color and the respective cable on the transfer HVPS board. See **“Transfer high voltage power supply (HVPS)” on page 5-20**.
- Transfer HVPS cable - Make sure that there is no damage to the cable running from the system board to the transfer HVPS board. Verify the connection at both ends.
- Transfer HVPS board.
- Engine board.

Configuration Menu

The Configuration Menu contains a set of menus, settings and operations which are infrequently used by a user. Generally, the options made available in this menu are used to configure a printer for operation.

Note: An asterisk(*) in the value list in the following menus indicates the default value.

The following are available from the Configuration Menu:

ITU Cnt Value
Fuser Cnt Value
Reset Fuser Cnt
Prt Quality Pgs **(**This is not displayed if in Demo mode.)
Color Trapping
Tray Insert Msg
SIZE SENSING
Panel Menus
PPDS Emulation (This only displays if the PPDS interpreter is available.)
Demo Mode
Factory Defaults
Energy Conserve
Auto Color Adjust
ERROR LOG
Font Sharpening
Paper Prompts
Env Prompts
Exit Config Menu (Press **Select** to exit CONFIG MENU and reboot.)

Entering Config Menu

To enter the Configuration Menu:

1. Turn the printer off.
2. Press and hold the **Select** and **Return** buttons.
3. Turn the printer on.
4. Release the buttons when `Performing Self Test` is displayed.

Exiting the Config Menu

Select **EXIT Config Menu** to exit the Configuration Menu and return to normal mode.

ITU Count Value

This is the page count of the current ITU. It cannot be reset unless a new ITU is installed.

Press **Select** to view the count value.

Fuser Cnt Value

Enter the Configuration Menu and select **Fuser Cnt Value**.

The value can be reset in Reset Fuser Cnt.

This only displays if the Maintenance Warning and Intervention function is enabled in the printer Configuration ID. The fuser maintenance page counter is incremented when a page is printed and incremented by two when a duplex sheet is printed. The counter can be used to track printer usage. When the counter reaches 200,000, the printer posts a fuser maintenance message on the operator panel.

Reset Fuser Cnt

This only displays if the Maintenance Warning and Intervention function is enabled in the printer Configuration ID. The fuser maintenance page counter is incremented when a page is printed and incremented by two when a duplex sheet is printed. The counter can be used to track printer usage. When the counter reaches 200,000, the printer posts a fuser maintenance message on the operator panel.

1. Select **Reset Fuser Cnt** in the Config Menu to view the page count.
2. Press **Return** to return to the previous menu or press **Select** to reset the maintenance page counter back to zero.

Prt Quality Pgs

The Print Quality Test consists of five pages. Pages one and two contain a mixture of graphics and text. The remainder of the pages only contain graphics. Use this test to identify print quality problems. The Test Pages must be printed on A4, Legal or Letter paper.

1. Select **Prt Quality Pgs** from the Config Menu.
2. Press **Select**.

Go to **“Print tests” on appendix page B-3** for representative samples of the pages.

Color Trapping

Color trapping is an aid to graphic and text. When a text or graphics appear over other colors, a misalignment may allow white paper to show through at the borders of the colors. Color trapping reduces the cutout area under the upper image so a slight misalignment does not show.This only affects PostScript printing.

1. Select **Color Trapping** from the Config Menu
2. Select the value or **Off**. The range is 1 to 5 and the default value is 2.
   Use **Menu** to increase the value.

Tray Insert Msg

This setting controls how long, in seconds, the tray insert message displays when a tray is inserted.

The values are **Disabled** and 1 to 90. The default value is 5.

SIZE SENSING

Automatic size sensing can be disabled or enabled in this menu. Only paper sources that support Auto Size Sensing are displayed.

1. Select **SIZE SENSING** from the Config Menu.
2. Select a tray. Only those trays with size sensing display. One of the following is displayed:
   Tray 1 Sensing
   Tray 2 Sensing
   Tray 3 Sensing
   Tray 4 Sensing
3. Select **Auto** to turn size sensing on for that tray, or select **Off** to disable size sensing.
4. Select **Return** to exit.

Panel Menus

Disabling Panel Menus prohibits users from modifying any setting or executing any operation available in the Ready Menu group.

1. Select **Panel Menus** from the Config Menu.
2. Select **Disable** or **Enable**.
   Enable is the default.

PPDS Emulation

This only displays if the PPDS interpreter is available.

1. Select **PPDS Emulation** from the Config Menu.
2. Select **Activate** or **Deactivate**.

Demo Mode

This printer supports a demo mode that is usually used in retail environments to illustrate the features of the printer. The printer features are illustrated by demonstration files stored in the RIP firmware, flash option, or disk option.

1. Select **Demo Mode** from the Config Menu.
2. Select **Activate** or **Deactivate**.
   Deactivate is the default value.

Factory Defaults

The customer can restore either the network settings or the base printer settings to their factory default values. When Restore Base is selected, non-critical base printer NVRAM settings are restored. When Restore Network is selected, all network NVRAM settings are restored to their factory default settings. This option is only available on models with an integrated network adapter. In either case, Restoring Factory Defaults is displayed after the operation is selected.

1. Select **Factory Defaults** from the Config Menu.
2. Select **Restore Base** or **Restore Network**.
   Note: Restore Network is only listed on models that have integrated network support.

Energy Conserve

When Energy Conserve is on, the customer does not have access to disable the Power Saver function. When Energy Conserve is off, Disable appears as an additional menu item in the Power Saver menu. This setting only affects the values that are displayed in the Power Saver Menu.

1. Select **Energy Conserve** from the Config Menu.
2. Select **On** or **Off**.

Auto Color Adjust

Automatic color adjustments periodically occur during printing, based on internal algorithms The following situations prompt the adjustment:

- If the printer detects a new or different color cartridge is installed, usually at power on or when the cover is closed.
- If the printer detects a new or different ITU is installed, usually at power on or when the cover is closed.
- If the fuser detects at power on that the fuser temperature is at 60° C.
- If Power Saver has been active for eight hours or more.
- If the printer was turned off during a calibration cycle.
- At the Ready state, if one of several internal engine parameters has exceeded a given threshold.
- If requested by the user from the operator panel or by a PJL command.
- At the Ready state if more than 500 pages are printed since the last calibration. This value can be adjusted in this menu.

Selecting Off disables all Auto Color Adjust prompts listed above except the request of the user or the PJL command.

1. Select **Auto Color Adjust** from the Config Menu.
2. Select **Off** or a value from 100 to 1000. The default value is 500.
   Use **Menu** to increase the value.

The values are in increments of 50. The default is 500 pages. The number refers to how many pages since the last calibration before recalibration begins automatically.

ERROR LOG

The history of printer errors can be printed by selecting **Print Log**.

Note: This log can be printed from Diagnostics mode or the Configuration Menu, but the report from Configuration menu contains the debug and secondary error codes that do not print version from the Diagnostics mode. The errors printed here do not necessarily match in number or in order those printed with Display Log in Diagnostics. However, you can select additional options in Diagnostics mode, including Display Log and Clear Log. For additional information, see **“ERROR LOG” on page 3-35**. Errors are also shown on the Print Quality Pages.

Font Sharpening

Font Sharpening allows the user to adjust the value of the high frequency screens used for font data. For example, if the value is 24, all fonts 24 points and less use the high frequency screens.

1. Select **Font Sharpening** from the Config Menu.
2. Select a value from 1 to 150. The default value is 24.
   Use **Menu** to increase the value.The increment is 1.

This feature only works in PostScript emulation.

Paper Prompts

Setting Paper Prompts controls which tray a change prompt is directed to when paper is sensed to be the wrong size.

1. Select **Paper Prompts** from the Config Menu.
2. Select **Auto**, **MP Feeder**, or **Manual Paper**.

Env Prompts

Env Prompts controls which tray a change prompt is directed to when the envelopes are sensed to be the wrong size.

1. Select Env Prompts from the Config Menu.
2. Select **Auto**, **MP Feeder**, or **Manual Envelope**.

Exit Config Menu

Press **Select** to exit the Configuration Menu and reboot the printer.

Diagnostics mode

To run the printer diagnostic tests described in this chapter, put the printer in Diagnostics mode.

The tests display on the operator panel in the order shown:

REGISTRATION
ALIGNMENT MENU
TOP FINE MARGIN ADJ
MISC TESTS
PRINT TESTS
HARDWARE TESTS
DUPLEX TESTS (if installed)
INPUT TRAY TESTS
OUTPUT BIN TESTS
FINISHER TESTS (if installed)
BASE SENSOR TEST
DEVICE TESTS (if optional flash or disk installed)
PRINTER SETUP
EP SETUP
ERROR LOG
DEV MENU
EXIT DIAGNOSTICS

Entering Diagnostics mode

To enter the Diagnostics Mode:

1. Turn the printer off.
2. Press and hold the **Go** and **Return** buttons.
3. Turn the printer on.
4. Release the buttons when `Performing Self Test` is displayed.

Exiting the Diagnostics mode

Select **EXIT DIAGNOSTICS** to exit the Diagnostics mode and return to normal mode.

REGISTRATION

Use REGISTRATION to align the black image on the page. Use ALIGHNMENT to align the individual colors. The black image should be aligned before the individual colors are aligned.

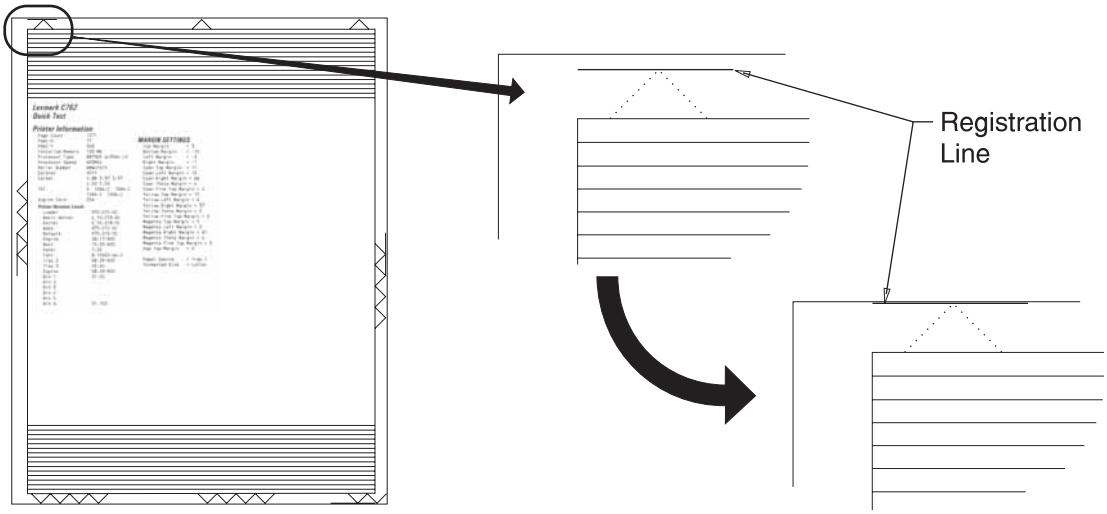
To set Registration:

1. Select **REGISTRATION** from the Diagnostics Mode.

T=sxx*	B=s*xx**
L=sxx*	R=s*xx**

B=Bottom margin
T=Top margin
L=Left margin
R=Right margin
s=Negative values, space blank for positive values
xx=Margin value
*=Current value

2. Press **Go** to print the Quick Test Page. Current margin settings are listed on the printout.
3. Determine how values should change to align the arrows to the top, bottom, right, and left margins. Align the Registration Line to the edge of the page.



The print registration range is:

Top Margin:	-25 to +25	Increasing the value moves the image down the page. Always adjust the top before the bottom margin.
Bottom Margin:	-25 to +25	Increasing the value stretches the image toward the bottom of the page.
Right Margin:	-15 to +15	Increasing the value moves the image to the left on the page. Always adjust the right before the left margin.
Left Margin:	-15 to +15	Increasing the value stretches the image toward the left margin.

Note: Adjusting the Top and Right margins moves the entire image. Adjusting the Bottom and Left margins causes the image to expand or compress. It is easier to adjust the Top and Right margins, first, then adjust the Bottom and Left.

4. Enter the values.
   The Top margin sign/value pair *blink*s. This indicates it is the margin value being changed.
   - To select the margin value to change, press **Select** until the margin value pair you want to change is *blinking*.
   - To change the margin value press **Menu**.
   - When the value you want is displayed, press **Select** to save the value.
5. To verify the margin values are correct print the Quick Test Page from the registration screen. Press **Go** to print the test page. While printing, Quick Test Printing is displayed. Once printing is complete, the Registration screen appears. See a sample of the **"Quick Test Page" on appendix page B-8**.
   Print the Quick Test Page on letter or A4 paper.
6. To exit the Registration menu, press **Return**.

ALIGNMENT MENU

Aligns the image on the page for the individual colors: cyan, yellow and magenta. The black image should be aligned using REGISTRATION before the individual colors are aligned.

Selections include:

CYAN
YELLOW
MAGENTA

Setting alignment for color

1. Select **ALIGNMENT MENU** from the Diagnostics mode.
2. Select **CYAN**, **YELLOW**, or **MAGENTA**.
   The following screen is displayed:

T=s*xx**	R=s*xx**
L=s*xx**	Z=s*xx**

Value:	Description:	Range:
T=	Top Margin Offset	-127 to +127
L=	Left Margin Offset	-300 to +300
R=	Right Margin Offset	-350 to +350
Z=	Theta Offset (Skew compensation)	-16 to +16
s	=sign for negative values (this space is blank for positive values)	
xx	=margin value	
*	=Current value	

3. Press **Go** to print Alignment Test pages before changing any of the settings. See **"Printhead electronic alignment test page—Magenta (one of two)" on appendix page B-10** for an example of the magenta pages in color.
   Note: The Alignment Test Pages should be printed on A4 or Letter paper.
   The printer tries to print the test page from the default paper source, however if the default source only supports envelopes, then the page prints from Tray 1.
4. Determine which settings to change and follow the instructions on the printed sheets to determine the adjustment.
5. Change the values.
   - When the alignment screen is displayed, the Top Margin sign/value pair flashes. To change the value, press **Menu** to increase or decrease. Once the value is displayed, press **Select** to save the value and move to the next value.
   - The margin values *blink* in the following order: Top, Left, Right and Theta (Z). To skip a margin value, because its value is correct, press **Select**. The current value remains the same.

6. Press **Go** to reprint the Alignment Test Pages to confirm your adjustments on page 1. Repeat steps 4 through 6 if required.
7. Continue until all three colors are aligned.
8. Press **Return** to exit the ALIGNMENT MENU.

Drift Sensors

This check is used to display the status of the thermal system used to compensate for printhead drift.

The following screen is displayed when the test is selected:

```
Com=aaaa          M=bb
C=cc     Y=dd      K=ee
```

Values:

If:	Value:	Description:
Com=	Err	RIP to A/D communication error
Com=	Good	Communication is good
M=, C=, Y=, or K=	OP	Open thermistor error
M=, C=, Y=, or K=	SH	Short thermistor error
M=, C=, Y=, or K=	RA	Range error
M=, C=, Y=, or K=	Number	Detected temperature in Celsius of last reading. Indicates the system is functioning properly.

If Com=Err, replace the system board. See **“System board” on page 4-72**.

If a number, C, Y, or K=OP, or SH, check the following:

1. Check the cable of the appropriate thermistor (cyan, magenta, yellow, or black) to make sure it is installed correctly to the system board and to the thermistor board. If correct, go to step 2.
2. Check the continuity of the appropriate cable. Replace the cable if there is no continuity. If continuity is correct, go to step 3.
3. Replace the appropriate thermistor assembly. If this does not fix the problem, replace the system board.

To exit the test, press **Return** or **Stop**.

TOP FINE MARGIN ADJ

Do not change this setting without consulting your next level of support.

MISC TESTS

Motor Detect

This test initiates an Automated Motor Detection. It must be performed if the NVRAM contents are lost during the replacement of a paper size sensing board. This test must also be performed anytime the ITU motor, fuser motor, or cartridge drive motors are replaced.

To run the Motor Detect:

1. Remove all the print cartridges from the printer and close the cover.
2. Select **Motor Detect** from MISC TESTS.
3. Press **Go**.
   `Motor Detection in Progress` is displayed.

The test lasts approximately ten seconds. No buttons are active during detection and the test completes automatically.

Toggle ITU

The test is used to verify that ITU belt retraction, BOR, hardware is functioning properly. Two options are available: Raise Belt and Lower Belt. If the belt is already in the requested position, no action occurs. Otherwise the belt will move to the requested position.

1. Select **Toggle ITU** from the menu.
2. Select **Raise Belt** or **Lower Belt**, from the menu.
   The following screens display for the test selected:

```
Toggle ITU
=Raise Belt
```

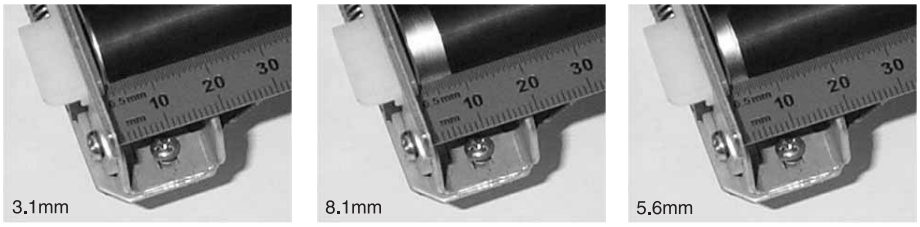
```
Toggle ITU
=Lower Belt
```

3. To exit the test, press any button.

Belt Tracking (ITU 4th point adjustment)

This test is used to determine the need for the ITU Shim to correct 4th point alignment following the ITU replacement.

Note: Remove all cartridges before initiating this test and note the belt position.



1. Select **Belt Tracking** from the menu.
   The following screen is displayed:

   ```
   Test in Progress
   ..............................
   ```

   The operation normally takes approximately 15 minutes to complete. It may take less time if the test fails. When the test is complete, the following screen is displayed:

   ```
   Test Complete
   Code <pass code>
   ```

   or

   ```
   Test Failed
   Code <fail code>
   ```

   If the test is successful, the pass code will be a number between - 250 and + 250. Do not install a shim. If the test fails, then a fail code will be a number between 0 and 200 and a message indicates the cause of the failure. The following is a list of failure codes:
   - Cover open.
   - Cartridges NOT removed.
   - Less than three revolutions before the test ended (may never be displayed). Belt tracked to front.
   - 100 revolutions when test ended, belt tracked to front.
   - 103 <=3 revs before test ended. Probably never displayed. Belt tracked to rear.
   - 104-200: numbers of revs when test ended +100. Belt tracked to rear.
2. To exit the test, press any button.
3. Verify the failure code by comparing the belt position to the initial position. Install the shim to the rear if the belt tracked to the rear. Install the shim to the font if the belt tracked to the front. Refer to the instructions included with the shim for installation.
4. After installing the shim, run the test, again. If the test fails, rerun several times as the belt needs time to stabilize. Once the test is successful, reinstall the cartridges and restart the printer.

Printhead Inst

The purpose of this test is to cause the printer to print a page that aids in the mechanical alignment of a printhead. This test should not be used independently of the mechanical alignment. See **“Printhead mechanical alignment” on page 4-61**.

PRINT TESTS

The Print Tests consist of the following tests:

Tray 1
Tray 2 (if installed)
Tray 3 (if installed)
Tray 4 (if installed)
Tray 5 (if installed)
MP Feeder
Print Quality Pgs

For examples of the Print Quality Pages, see **"Print tests" on appendix page B-3**.

Print Tests (input sources)

This test determines if the printer can print on media from any of the paper input sources. Each of the installed sources is available within the Print Tests menu.

The content of the test page varies depending on the media installed in the selected input source.

- If a source is selected that contains paper, then a page similar to the Quick Test Page is printed and does not contain the Print Registration diamonds.
- If a source is selected which contains envelopes, then an Envelope Print Test pattern is printed. This pattern only contains text, which consists of continuous prints of each character in the selected symbol set.
- If **Continuous** is selected, all sources printing with paper sizes prints the same page continuously until the test is stopped. If continuous is selected from a source which contains envelopes then the envelope print test pattern is printed on the first envelope and the rest are blank.

The Print Test page always prints single sided, regardless of the Duplex setting or the presence of the Duplex option.

To run the Print Test:

1. Select **PRINT TESTS** from the menu.
2. Select the paper source from the menu.
3. Select either **Single** or **Continuous** from the menu.
   Note: If **Single** is selected, no buttons are active while the Print Test Page is printing. If **Continuous** is selected, **Return** or **Stop** can be pressed to cancel the test.

   The following screen is displayed while printing.

   ```
   <input source>
   Printing          <media width>
   ```

   <*input source*> Tray 1, Tray 2, Tray 3, Tray 4, Tray 5, MP Feeder, or Env Feeder
   <*media width*> N or Narrow Width Media, or W for Wide Width Media

4. Press **Return** or **Stop** at the end of the test to return to the original screen.

Print Quality Pgs

The print quality test consists of five pages. Pages one and two contain a mixture of graphics and text. The remainder of the pages only contain graphics. See **"Print tests" on appendix page B-3** for samples of the Print Quality Pgs.

This test may be printed from either Configuration Menu or the Diagnostics mode. To run the print quality pages from the Diagnostics mode, select **PRINT TESTS** and **Print Quality Pgs** from the menu. Once the test is started it cannot be canceled. When the test pages print the printer returns to the original screen.

HARDWARE TESTS

The following hardware tests can be selected from this menu:

LCD Test
Button Test
DRAM Test
CASCHE Test
ROM Test
Parallel Wrap (if available)
Serial Wrap (if available)
Serial 1 Wrap (if available)
Serial 2 Wrap (if available)
Serial 3 Wrap (if available)

LCD Test

This test verifies the operator panel LCD function.

To run the LCD Test:

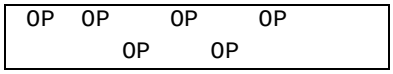
1. Select **LCD Test** from HARDWARE TESTS in the Diagnostics mode.
   The LCD test continually executes.
2. Press **Return** or **Stop** to cancel the test.

Button Test

This test verifies the operator panel button function.

To run the Button Test:

1. Select **Button Test** from HARDWARE TESTS in the Diagnostics mode.
   With no buttons pressed, several OP (Open) messages are displayed.



2. Press each button one at a time and a CL (Closed) displays in place of OP. The proper operation of each button can be checked.
3. Press **Return** or **Stop** to cancel the test.

DRAM Test

This test checks the validity of DRAM, both standard and optional. The test writes patterns of data to DRAM to verify that each bit in memory can be set and read correctly.

To run the DRAM Test:

1. Select **DRAM Test** from HARDWARE TESTS in the Diagnostics mode.
   The power indicator *blinks* indicating the test is in progress.
2. Press **Return** or **Stop** to exit the test.

```
DRAM Test          128M
P:######       F:#####
```

P:###### represents the number of times the memory test has passed and finished successfully. Initially 000000 displays with the maximum pass count being 99,999.

F:##### represents the number of times the memory test has failed and finished with errors. Initially 00000 displays with the maximum fail count being 99,999.

Once the maximum pass count or fail count is reached, the test is stopped, the power indicator turns on solid, and the final results appear. If the test fails, SDRAM Error appears for approximately three seconds and the failure count increases by 1.

CACHE Test

The CACHE Test is used to verify the processor CACHE is functioning properly.

1. Select **CACHE Test** from HARDWARE TESTS in the Diagnostics mode.
   The machine initiates a POR of the printer and the following screen is displayed:

   ```
   Resetting the
   Printer
   ```

   Upon completion of the POR the following screen is displayed:

   ```
   CACHE Test x100
   P:######       F:######
   ```

   P:###### represents the number of times the CACHE test has passed, finished successfully.
   Initially 000000 is displayed. The maximum pass count is 999,999.
   F:###### represents the number of times the CACHE test has failed, finished with errors.
   Initially 000000 is displayed. The maximum fall count is 999,999.
2. To exit the test, turn the printer off.

ROM Test

The ROM memory test is used to check the validity of the controller board code and fonts.

To run the ROM Test:

1. Select **ROM Test** from HARDWARE TESTS in the Diagnostics mode.
   P and F represent the same numbers for DRAM. The power indicator *blinks* indicating the test is in progress. The test runs continuously.
2. Press **Return** or **Stop** to exit the test.

Each time the test finishes, the screen updates with the result. If the test passes, the Pass Count increases by 1, however if the test fails, one of the following messages appears for approximately three seconds:

ROM Checksum Error
ROM Burst Read Error

Once the maximum pass count or fail count is reached, the test stops with the power indicator on solid. The final results display.

Parallel Wrap Test

Use this test with a wrap plug to check operation of the parallel port hardware. Each parallel signal is tested.

To run the Parallel Wrap Test:

1. Disconnect the parallel interface cable and install the wrap plug (P/N 1319128).
2. Select the **Parallel Wrap Test** from HARDWARE TESTS in the Diagnostics mode.
   The power indicator *blinks* indicating the test is in progress. The test runs continuously until canceled.

Each time the test finishes, the screen updates. If the test passes, the Pass Count increases by 1, however if the test fails, one of the following messages appears for approximately three seconds:

Sync Busy Error
Byte Interrupt Request Error
Strobe Interrupt Request Error
Init Fail Error
Init Busy Error
Init Rise Error
Host Busy Error
RAM Data FF Error
RAM Data AA Error
RAM Data 00 Error
RAM Data 55 Error
DMA Count Error
DMA Address Error
DMA Interrupt Error
DMA Memory Error
DMA Background Error
Clear Init Rise Error
False Init Rise Error
Autofeed Rising Interrupt Error
Clear Autofeed Rise Error
False Autofeed Rise Error
Autofeed Falling Interrupt Error
Clear Autofeed Fall Error

Once the maximum count is reached the test stops, the power indicator goes on solid and the final results are display. Press **Return** or **Stop** to exit the test.

Serial Wrap Test

Use this test to check the operation of the Serial Port Hardware using a wrap plug. Each signal is tested.

To run the Serial Wrap Test:

1. Disconnect the serial interface cable and install the wrap plug.
2. Select the appropriate **Serial Wrap Test** from HARDWARE TESTS in the Diagnostics mode. Values include **Serial Wrap**, **Serial 1 Wrap**, **Serial 2 Wrap,** or **Serial 3 Wrap**. P and F represent the same numbers for DRAM.
   The power indicator *blinks* indicating the test is running.
3. This test runs continuously unless canceled by pressing **Return** or **Stop**.

Each time the test finishes, the screen updates with the result. If the test passes, the Pass Count increases by 1, however if the test fails, one of the following failure messages appears for approximately three seconds and the Fail Count increases by 1:

Receive Status Interrupt Error
Status Error
Receive Data Interrupt Error
Transmit Data Interrupt Error
Transmit Empty Error
Threshold Error
Receive Data Ready Error
Break Interrupt Error
Framing Error
Parity Error
Overrun Error
Data Error
Data 232 Error
Data 422 Error
FIFO Error
DSR Error
DSR PIO Error
DSR Interrupt Error
CTS Error
CTS PIO Error
CTS Interrupt Error

Once the maximum count is reached the test stops. The power indicator goes on solid and the final results are displayed.

Press **Return** or **Stop** to exit the test.

DUPLEX TESTS

Duplex Quick Test

This test verifies if the Duplex Option Top Margin is set correctly. This test prints a duplexed version of the Quick Test Page that can be used to adjust the Top Margin for the back of the duplexed page. You can run one duplexed page (**Single**) or continue printing duplexed pages (**Continuous**) until **Return** or **Stop** is pressed.

You must use either Letter or A4 paper.

To run the Duplex Quick Test:

1. Select **Duplex Quick Test** from DUPLEX TESTS in the Diagnostics mode.
2. Select **Single** or **Continuous**.
   - The single Duplex Quick test cannot be canceled.
   - The printer attempts to print the Quick Test Page from the default paper source. If the default paper source only supports envelopes, then the page is printed from Tray 1.
   - Check the Quick Test Page for the correct offset between the placement of the first scan line on the front and back side of a duplexed sheet.
   - If adjustment is necessary, the Top Margin in the Registration menu must be adjusted first. The Duplex Top Margin Offset may be adjusted next.
   - A positive offset moves the text down the page and widens the top margin, while a negative offset moves the text up the page and narrows the top margin.
3. Press **Return** or **Stop** to exit the test.

Duplex Top Margin Offset

Modification of this setting controls the offset between the placement of the first scan line on the front and back side of a duplex sheet.

Changing the value by 1 unit moves the margin by 1/100 inches. A positive value moves the text down the page and widens the top margin. A negative value moves the text up the page and narrows the top margin.

Duplex Sensor Test

This test determines whether or not the duplex sensors and switches are working correctly.

1. Select **Sensor Test** from DUPLEX TESTS in the Diagnostics mode.
2. Select the sensor to test:
   Duplex input sensor
   Duplex exit sensor
3. Manually actuate the duplex sensors. When the sensor/switch is closed, CL (closed) displays, when the sensor/switch is open, OP (open) displays.
4. Press **Return** or **Stop** to exit the test.

INPUT TRAY TESTS

Feed Test

This test lets you observe the paper path as media is feeding through the printer. The upper front door, used to access the print cartridge, cannot be opened during the feed test. To observe the paper path, you must open the lower front door, used to access the paper jams on the vacuum transport belt. Blank pages feed during the test.

Note: This test can run using any of the paper or envelope sizes supported by the printer. The pages are placed in the default output bin, however, the Feed Test menu lets you select the input source.

To run the Input Tray Feed Test:

1. Select **Feed Test** from INPUT TRAY TESTS in the Diagnostics mode.
2. Select the input source from the sources displayed on the Feed Test menu. All installed sources are displayed.
3. Select either **Single** (feeds one sheet of media from the selected source) or **Continuous** (continues to feed from the selected source until **Return** or **Stop** is pressed).
4. Press **Return** or **Stop** to exit test.

Sensor Test

This test can be used for either 500-sheet trays or 2000-sheet trays.

500-sheet trays

Use this test to determine if the input tray sensors for a 500-sheet tray are working correctly.

To run the Sensor Test for 500-sheet trays:

1. Select the **Sensor Test** from INPUT TRAY TESTS in the Diagnostics mode.
2. Select the input source from the sources displayed. All installed sources are displayed. For example, Tray 1 may appear as follows:

```
Tray 1
L1=CL  L2=CL
```

L1=Input Tray level/empty Sensor 1
L2=Input Tray level/empty Sensor 2
P=Input Tray Pass Thru Sensor

Not all sensors display for all trays. Tray sensors are supported by the following sources:

Source	L1	L2	P (Pass thru sensor)
Tray 1	Yes	Yes	Not present
Tray 2*	Yes	Yes	Yes
Tray 3*	Yes	Yes	Yes
Tray 4*	Yes	Yes	Yes
Multipurpose Feeder	Yes	Not present	Not present
* 2000-sheet trays may be in this position. See **"For 2000-sheet trays"**.			

3. Manually actuate each sensor. The tray empty sensor can be actuated by hand, however a sheet of paper can be used to cover the pass thru sensor. When the sensor is closed, `CL` displays, when the sensor is open, `OP` appears.
4. Press **Return** or **Stop** to exit the test.

For 2000-sheet trays

This test can also be used to determine if the 2000-sheet tray sensors are working correctly.

1. Select **Sensor Test** from INPUT TRAY TESTS in the Diagnostics mode. for the tray you want to test. The following is displayed:

```
<input tray> EM=OP
NE=OP LE=OP SC=OP
```

The selected tray is displayed on line 1 <*input tray*> is either **Tray 2**, **Tray 3**, or **Tray 4**.

EM =trays empty sensor
NE =trays near empty sensor
LE =trays paper level sensor
SC =input trays side cover sensor

2. Manually actuate each tray sensor by moving the flag in and out of the sensor. OP (Open) appears when the flag is out of the sensor, or CL (Closed) when the flag is in the sensor.

OUTPUT BIN TESTS

Feed Test
Feed to all Bins (if multiple bins are attached)
Sensor Test
Diverter Test (if 5-Bin mailbox is installed)

Feed Test

Note: If the “Configure Bins” printer setting is link rather than mailbox, the printer selects its own internal bin linking regardless of which output bin is selected for the feed test.

This test verifies that media can be fed to a specific output bin. No information is printed on the media because the printhead is not turned on during this test.

To run the Output Bin Feed Test:

1. Select **Feed Test** from OUTPUT BIN TESTS in the Diagnostics mode.
2. Select the output bin you want the paper to exit into. All output bins installed on the printer are shown on the feed test menu.
3. Select either **Single** (one sheet of media feeds to the selected output bin) or **Continuous** (media continues feeding to the selected output bin) until **Return** or **Stop** is pressed.
4. Press **Return** or **Stop** to exit the test.

Feed to All Bins

One page is fed to every bin, including the finisher, if available. The test runs continuously until **Return** or **Stop** is pressed.

Sensor Test

This test verifies if the output bin sensors are working correctly.

The following output sources, if installed, are supported by this test.

Standard Bin
Output Expander
5-Bin Mailbox

To run the Output Bin Sensor Test:

1. Select **Sensor Test** from OUTPUT BIN TESTS in the Diagnostics mode.
2. Select the bin you want to test.
   - If **Standard Bin** is selected the following is displayed.

     ```
     Standard Bin
     F=OP
     ```

     F =Standard Bin Output Bin Full Sensor

   - If **Output Expander** is selected the following is displayed:

     ```
     <output bin>
     P=OP F=OP NF=OP
     ```

     P =Output Expander Pass Thru Sensor.
     F =Output Expander Full Sensor
     NF =Output Expander Near Full Sensor.

   - If **5-Bin Mailbox** is selected the following is displayed:

     ```
     <output bin>
     P1=OP P2=OP L=NL
     ```

     P1 =5-Bin Mailbox first Pass Thru Sensor.
     P2 =5-Bin Mailbox second Pass Thru Sensor.
     L =5-Bin Mailbox output level sensor where:
     EM indicates the bin is empty.
     NL indicates the bin contains media but the bin is not near full nor full.
     NF indicates the bin is near full.
     FL indicates the bin is full.

3. Once the selection is displayed you can manually actuate the sensor you want to test. When the sensor is closed `CL` displays, and when the sensor is open `OP` displays.
4. To exit the test press **Return** or **Stop**.

Diverter Test

Note: This test checks the operation of each mailbox output diverter. Also if more than one 5-Bin mailbox option is installed, the test checks all of the diverters installed on the printer.

When the test is selected from OUTPUT BIN TESTS in the Diagnostics mode, `Diverter Test Running` is displayed.

This is a single test and ends upon completion.

FINISHER TESTS

Staple Test

This test verifies the operation of the staple mechanism in the finisher.

To run the Staple Test:

Select **Staple Test** from FINISHER TESTS in the Diagnostics menu. The printer feeds eight pieces of media to the finisher and accumulates all eight pieces in the accumulator. After the last sheet is accumulated, the pack is stapled.

When the test is complete, the printer returns to the original screen.

Finisher Feed Test

This test verifies that media can be fed to the finisher output bin.

To run the Finisher Feed Test, select **Finisher Feed Test** from the menu. The printer feeds eight pieces of media to the finisher output bin.

Note: The sheets fed for this test are blank.

This test cannot be canceled or terminated once the test has begun. When the test is complete the printer returns to the original screen.

Finisher Sensor Test

This test determines if the finisher sensors are working correctly.

To run this test:

1. Select **Finisher Sensor Test** from FINISHER TESTS in the Diagnostics mode.
   - If you Select **Media 1** from the menu the following is displayed and the sensors polled:

     ```
     Media Path 1
     testing.....
     ```

     Once the sensors are polled, the following is displayed and the sensors are ready to test:

     ```
     Media Path 1
     S1=OP S2=OP
     ```

     S1 =Punch Timing Sensor A
     S2 =Punch Timing Sensor B

     Once this screen is displayed you can manually actuate each of the sensors. When the sensor is closed, `CL` is displayed, when the sensor is open `OP` is displayed.

- If you select **Media 2** from the menu the following is displayed and the sensors polled:

```
Media Path 2
Testing.............
```

Once the sensors are polled the following is displayed and the sensors are ready to test.

```
Media Path 2
S3=OP S4=OP
```

S3 =Inverter Jam Sensor
S4 =Drop Timing Sensor

Once the screen is displayed you can manually actuate each of the sensors. When the sensor is closed, CL is displayed, when the sensor is open OP is displayed.

- If you select **Media 3** from the menu the following is displayed and the sensors polled:

```
Media Path 3
Testing..........
```

Once the sensors are polled the following is displayed and the sensors are ready to test:

```
Media Path 3
S5=OP  S6=OP
```

S5 =Exit Timing Sensor

Once the screen is displayed you can manually actuate the sensor. When the sensor is closed, CL is displayed, when the sensor is open OP is displayed.

- If you select **Media Level** from the menu the following is displayed and the sensors polled:

```
Media Level
Testing...........
```

Once the sensors are polled the following is displayed and the sensors are ready to test:

```
Media Level
S1=OP S2=OP
```

S1 =Tray limit switches
S2 =Paper surface sensor

Once the screen is displayed you can manually actuate the sensor. When the sensor is closed, CL is displayed, when the sensor is open OP is displayed.

2. To exit the sensor test, press **Return** or **Stop**.

Hole Punch Test

Use this test to verify that media can be fed to the Finisher output bin and hole punched. Letter or A4 size media must be used in the source tray for this test. Eight sheets of blank paper are fed and holes punched with a three hole or four hole pattern.

To run the test in Diagnostics Mode:

1. Select **Hole Punch Tests** from FINISHER TESTS in the Diagnostics mode.
2. Select **3 Punch Test** or **4 Punch Test**.
3. Press **Return** after the test is complete to exit the test.

BASE SENSOR TEST

Use the Base Sensor Test to determine that the sensors located inside the printer are operating correctly. The following sensors can be checked using this test:

Input S1
Input S2
In-Line Media
Fuser exit sensor
K TMC sensor (black)
C TMC sensor (cyan)
M TMC sensor (magenta)
Y TMC sensor (yellow)

See **“Printer sensors” on page 5-3** for locations for these sensors. See **“Cartridge contact assembly pin locations (cyan, magenta and yellow)” on page 5-4** or **“Cartridge contact assembly pin locations (black)” on page 5-5**.

CAUTION: These sensors are near high voltage terminals to the print cartridge. Use a nonconducting item to toggle these switches and not your hand.

To run the Base Sensor Test.

1. Select **Base Sensor Tes**t from BASE SENSOR TEST in the Diagnostics mode.
2. Select the sensor to test.
   OP for open and *CL* for closed are displayed.
3. Manually toggle the sensors by hand to verify that each sensor switches from open to closed.

DEVICE TESTS

Quick Disk Test

This test performs a non-destructive read/write on one block per track on the disk. The test reads one block on each track, saves the data, and proceeds to write and read four test patterns to the bytes in the block. If the block is good, the saved data is written back to the disk.

To run the Quick Disk Test:

1. Select **Quick Disk Test** from DEVICE TESTS in the Diagnostics mode.
   - The power indicator *blinks* while the test is in progress.
   - `Quick Disk Test/Test Passed` is displayed if the test passes and the power indicator turns on solid.
   - `Quick Disk Test/Test Failed` is displayed if the test failed and the power indicator turns on solid.
2. Press **Go**, **Return**, or **Stop** to return to the Device Tests menu.

Disk Test/Clean

Warning: This test destroys all data on the disk and should not be attempted on a good disk. This test may run approximately 1½ hours depending on the disk size.

To run the Disk Test/Clean Test:

1. Select **Disk Test/Clean** from DEVICE TESTS in the Diagnostics mode.
   `Files will be lost/Go or Stop`? is displayed to warn the user.
2. To exit the test immediately and return to DEVICE TESTS, press **Return** or **Stop**. To continue with the test, press **Go**.
   If **Go** is selected, `Disk Test/Clean/BAD:000000 00%` is displayed. The screen updates periodically indicating the percentage of test completed and the number of bad blocks found.
3. The power indicator *blinks* during the test. The test can be canceled anytime during the test by pressing **Return** or **Stop**.
   - Once the test is complete, the power indicator turns on solid and a message displays.
   - *xxxx* Bad Blocks/*yyyyyy* Usable is displayed if fewer than 2000 bad blocks are detected. xxxx indicates the number of bad blocks and *yyyyyy* indicates the number of usable blocks.
   - *xxxx* Bad Blocks/Replace Disk is displayed if more than 2000 bad blocks are detected. The disk cannot be recovered because too many bad blocks exist on the disk.
4. Press **Go**, **Return**, or **Stop** to return to DEVICE TESTS.

Flash Test

This test causes the file system to write and read data on the flash to test the flash.

Warning: This test destroys all data on the flash because the flash is reformatted at the end of the test.

To run the Flash Test:

1. Select **Flash Test** from DEVICE TESTS in the Diagnostics mode.
   - The power indicator *blinks* while the test is running.
   - Flash Test/Test Passed is displayed if the test passes and the power indicator turns on solid.
   - Flash Test/Test Failed is displayed if the test fails and the power indicator turns on solid.
2. Press **Go, Return**, or **Stop** to return to DEVICE TESTS.

PRINTER SETUP

Defaults

This setting is used by the printer to determine whether US or non-US factory defaults should be selected. The following printer settings have different US and non-US values:

Default values

Printer setting	US value	Non-US value
Paper size (paper feeding sources which do not have hardware size sensing capabilities)	Letter	A4
Envelope size (Envelope feeding sources which do not have hardware size sensing capability)	10 Envelope	DL Envelope
Fax paper size	Letter	A4
PCL symbol set	PC-8	PC-850
PPDS code page	437	850
Universal units of measure	Inches	Millimeters

Warning: Modification of the printer setting Defaults causes the NVRAM space to be restored to the printer's factory settings.

PAGE COUNTS

Color Page Count
Mono Page Count
Perm Page Count

Setting the page counts

The printer's page count can be changed via the diagnostic menu. The Color and Mono Page Count can be changed whenever the paper size sensing board is replaced.

Note: The Perm Page Count cannot be changed.

1. Select **PAGE COUNTS** from PRINTER SETUP in the Diagnostics mode.
2. Select either **Color Page Count** or **Mono Page Count**.
   When you have made the selection, a screen similar to the following is displayed:

```
Color Page Count
=1234567*
```

3. The left most digit *blinks*, indicating it is the first digit to be changed. To change the value, press either **Menu** until the desired value is displayed. Press **Select** to move to the next digit. The digit *blinks*. Continue modifying each digit using this method. To skip a digit and keep its current value, press **Select**.
4. When you have completed selecting the final digit, press **Select** and the count is stored in NVRAM.
5. Press **Return** to return to PRINTER SETUP.
6. Select a new test or select **Exit Diagnostics** from the Diagnostic Menu.

Viewing the permanent page count

The permanent page count can only be viewed from the operator panel and cannot be changed.

1. Select **Perm Page Count** from PRINTER SETUP in the Diagnostics mode.
2. A screen similar to the following screen displays when permanent page count is selected:

```
Perm Page Count
=1234567*
```

3. Press **Return** to return to PRINTER SETUP in the Diagnostics mode.

Serial Number

You can view the serial number.

Engine Setting *x*

Warning: Should not be changed without specific instructions from the next level support.

Model Name

You can view the model name.

Configuration ID

Warning: Should not be changed without specific instructions from the next level support.

The configuration ID is used to communicate characteristics of certain areas of the printer that cannot be determined by hardware sensors. The configuration ID is originally set when the printer is manufactured. However, it needs to be reset when the system board or paper size sensing board are replaced.

1. Select **Configuration ID** from PRINTER SETUP in the Diagnostics mode.
   The following screen is displayed:

```
Configuration ID
=1234567*
```

2. Open the waste container door to locate a label above the waste container. The label contains the configuration ID.
3. The leftmost digit *blinks*, indicating it is the first digit to be changed. To change the value, press **Menu** until the desired value is displayed. Press **Select** to move to the next digit. The digit *blinks*. Continue modifying each digit using this method. To skip a digit, and keep its current value, press **Select**.
4. When **Select** is pressed after the final digit, the configuration ID is validated. If the ID is invalid, the invalid ID is displayed momentarily on the second line before the ID is displayed. If the ID is valid, then the ID is stored in NVRAM and the printer automatically begins POR to activate the new setting.

Note: The printer begins POR in the normal mode, not in the diagnostic mode.

Note: If a configuration ID has not been set, and `Check Configuration ID` displays, then upon entry into Diagnostics mode, Configuration ID is the only diagnostic function displayed until a valid ID is entered.

Edge to Edge

Turn Edge to Edge printing on or off.

Reset Calibration

The Reset Calibration resets the TPS NVRAM values when initiated.

1. Select **Reset Calibration** from PRINTER SETUP in the Diagnostics mode and the following screen displays:

```
PRINTER SETUP
Reset Calibration
```

   Then the following screen is displayed:

```
Resetting
Calibration
```

2. The printer returns to the previous screen when calibration is complete.

Cal Ref Adj

Warning: Should not be changed without specific instructions from the next level support.

EP SETUP

EP Defaults
Fuser Temp
DC Charge Adjustment
Dev Bias Adj
Transfer Adjust

EP Defaults

The EP Defaults is used to restore each of the printer settings contained in the EP Setup menu to their factory default value.

To restore the EP Setup settings to factory defaults, select **Restore**.

To exit the menu without restoring the settings to the factory defaults, select **Do Not Restore**.

Fuser Temp

Warning: Should not be changed without specific instructions from the next level support.

DC Charge Adjustment

Warning: Should not be changed without specific instructions from the next level support.

Dev Bias Adj

Warning: Should not be changed without specific instructions from the next level support.

Transfer Adjust

Warning: Should not be changed without specific instructions from the next level support.

ERROR LOG

Display Log

The error log provides a history of printer errors. The error log contains the 12 most recent errors. The most recent error appears in position 1 and the oldest error appears in position 12 (if 12 errors have occurred). If an error occurs after the log is full, the oldest error is discarded. Identical errors in consecutive positions in the log are entered. All 1*xx,* 2*xx* and 9*xx* error messages are stored in the error log. These errors are also shown in Print Quality Pages.

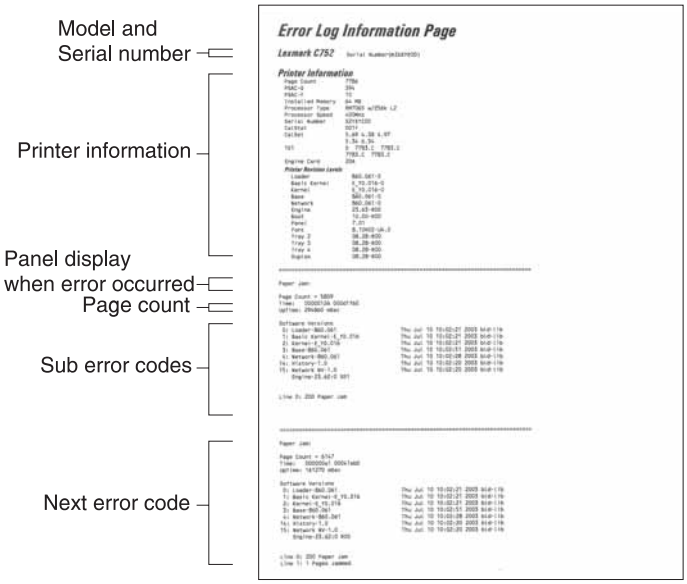
To view the Error Log:

1. Select **Display Log** from ERROR LOG in the Diagnostics mode.
   The Error log is displayed on three screens as only four entries display at a time.
2. Press **Menu** to move forward or backward and view additional lines.
3. Press **Return** or **Stop** to exit the Error Log.

Print Log

The history of printer errors can be printed. The first page of the error log contains a Printer Information section similar to what is printed on a Menu Setting Page. Printed at the top of each page is the model name and serial number to assist in tracking each page of a report to a specific printer. The printout of the log contains the following information for each error in the log:

- Page count when the error occurred (except for 900 service RIP software errors).
- Code versions of all packages when error occurred.
- Panel display when error occurred (except for 900 service RIP software errors).
- Debug information and secondary error codes depending on the error.



The Clear Log operation clears out the errors that print in this report. The errors listed in the Display Log operation do not necessarily match in number nor in order with the errors from the printer log.

Note: This log can be printed from configuration menu, but the debug and secondary error codes are not be printed on this log.

Clear Log

To clear the Error Log:

1. Select **Clear Log** from ERROR LOG in the Diagnostics mode.
2. Select **Yes** to clear the Error Log or **No** to exit the Clear Log menu.
   If **Yes** is selected, the Empty Error Log displays on the screen.
3. Press **Return** or **Stop** to exit the Clear Log menu.

EXIT DIAGNOSTICS

Select **EXIT DIAGNOSTICS** to exit the Diagnostics mode and return to normal mode.

HCIT standalone test mode

This test lets you check out and test the HCIT (2000-Sheet High Capacity Input Tray) without removing any option or the base printer mounted above the optional HCIT.

Note: During normal operation, the red LED on the HCIT system board *blinks* on for one second and off for one second.

Dip switch settings

Do the following steps to set and run the Test/Diagnostic:

1. Use the Dip Switch Settings table to determine the settings (DSW1 thru DSW4) on the HCIT control board for the test you want to run.
2. Turn the HCIT power off by moving the LVPS slide switch to the left position.
3. Press and hold the Push Button Switch PBSW1 while moving the LVPS slide switch to the right position. The red LED on the HCIT control board comes on.
4. Press PBSW1 to feed paper.
5. Press PBSW1 to stop feeding paper.

Dip switch settings

DSW1	DSW2	DSW3	DSW4	Mode
Off	Off	Off	N/A	Set for shipping
Off	Off	On	N/A	The Mirror Reflection Sensors must be adjusted anytime the sensors are replaced.
Off	On	Off	N/A	EEPROM Initialize
Off	On	On	N/A	Not used
On	Off	Off	N/A	Paperless Operation Mode
On	Off	On	N/A	Self Operation Mode
On	On	Off	N/A	Standalone Feeding Operation Mode
On	On	On	N/A	Not used

4. Repair information

Warning: Read the following before handling electronic parts.

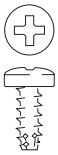
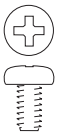
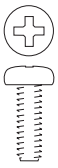
Handling ESD-sensitive parts

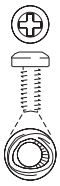
Many electronic products use parts that are known to be sensitive to electrostatic discharge (ESD). To prevent damage to ESD-sensitive parts, use the following instructions in addition to all the usual precautions, such as turning off power before removing logic boards:

- Keep the ESD-sensitive part in its original shipping container (a special “ESD bag”) until you are ready to install the part into the machine.
- Make the least-possible movements with your body to prevent an increase of static electricity from clothing fibers, carpets, and furniture.
- Put the ESD wrist strap on your wrist. Connect the wrist band to the system ground point. This discharges any static electricity in your body to the machine.
- Hold the ESD-sensitive part by its edge connector shroud (cover); do not touch its pins. If you are removing a pluggable module, use the correct tool.
- Do not place the ESD-sensitive part on the machine cover or on a metal table; if you need to put down the ESD-sensitive part for any reason, first put it into its special bag.
- Machine covers and metal tables are electrical grounds. They increase the risk of damage because they make a discharge path from your body through the ESD-sensitive part. (Large metal objects can be discharge paths without being grounded.)
- Prevent ESD-sensitive parts from being accidentally touched by other personnel. Install machine covers when you are not working on the machine, and do not put unprotected ESD-sensitive parts on a table.
- If possible, keep all ESD-sensitive parts in a grounded metal cabinet (case).
- Be extra careful in working with ESD-sensitive parts when cold-weather heating is used because low humidity increases static electricity.

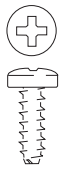
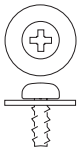
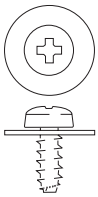
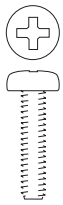
Screw identification table

The following table contains screw types, locations, and quantities necessary to service the printer. Pay careful attention to each screw type location when doing removals. You must install the correct screw type in each location during reassembly.

Reference number	Screw type	Location	Purpose	Qty
002	4-40 Machine	Parallel connector to shield	Attach	2
102 	M3.5x8 mm Thread Cutting	Cartridge guides to upper frame	Attach	8
		Upper front cover to cartridge guides	Attach	4
		Front cover pivot to front upper cover	Attach	2
		Front left light shield to upper front cover	Attach	1
121 	M3.5x6 mm Machine	LVPS to lower frame	Mounting	7
		Right rear cover to LVPS	Attach	1
		HVPS standoffs to upper frame	Mounting	4
133	M3x8 mm Panhead	Door handle to cover	Attach	2
		Detent housing to cover	Attach	1
		Door spring shields to cover	Attach	4
214 	M3.5x10 mm Machine	ITU motor to gearbox	Mounting	4

Reference number	Screw type	Location	Purpose	Qty
232 	M3x6 mm Taptite Metal Thread Forming	Ground cable to right front cover support and upper frame.	Attach	2
		Blank INA covers to system card shield	Mounting	2
		Rear V-block plate to upper frame	Mounting	1
		Transfer HVPS to card shield	Attach	1
		Media size card to support plate	Attach	3
		Black bellcrank studs	Mounting	2
		Ground cable to bottom support plate shield support assembly	Attach	2
		Rear cover to card shield	Attach	6
		Ground cable strap to system card shield assembly	Attach	1
		Card shield to card support plate	Attach	2
		System card to shield	Mounting	8
		Card shield cover to card shield	Attach	4
		USB connector to shield	Mounting	1
312	M2.9x6 mm Plastite	Front access door assembly	Mounting	3
		ITU switch housing to light shield	Attach	1
		Duplex baffle to lower right door	Attach	4
		Front and rear latches to lower right door	Mounting	2
		Bias latch cover to door	Attach	1
		MPF asm to MPF door	Attach	6
		Support bracket to MPF door	Attach	4
		MPF cable cover to door asm	Mounting	1
		MPF latch support brackets to upper frame	Attach	2
		Voltage cable to terminal (BOR/ITU) black	Attach	1
		Voltage cable to terminal (BOR/ITU) cyan	Attach	1
		Voltage cable to terminal (BOR/ITU) Magenta	Attach	1
		Voltage cable to terminal (BOR/ITU) yellow	Attach	1
		Thermistor to printheads	Attach	8
		Guides to V-blocks	Attach	8
323	M3.5x8 mm Plastite Thread Forming	Frame support back plate to lower frame	Attach	2
		Door latch catch to frame	Attach	2
		Transfer HVPS to lower frame	Mounting	2
		Fuser top duct to lower frame	Attach	1
		Right front cover support to lower frame	Attach	1
		Front lower left cover to lower frame	Attach	1
		Front left handle cover asm to lower frame	Attach	4
		Front lower right cover to lower frame	Attach	1
		Front right handle cover asm to lower frame	Attach	4
		Right front cover to lower frame	Attach	2

Reference number	Screw type	Location	Purpose	Qty
323	M3.5x8 mm Plastite Thread Forming (continued)	Left lower cover to lower frame	Attach	2
		Left upper cover asm to lower frame	Attach	2
		Left upper cover asm to upper frame	Attach	1
		Left lower pivot to lower frame	Attach	2
		Left upper pivot lower frame	Attach	1
		Rear cover to lower frame, left cover	Attach	6
		Rear fan cover to lower frame and top cover	Attach	4
		RIP fan assembly to upper frame	Attach	1
		Cartridge contact caps to housing	Attach	8
		Rear cover to lower frame, left cover and top cover	Attach	10
		Top cover asm to upper front cover	Attach	3
		Top cover asm to card shield	Attach	1
		ITU light shield asm to upper front guide ITU	Attach	1
		Ribs to upper redrive door	Mounting	5
		Upper door hinges to upper frame (redrive)	Mounting	2
		Inner redrive asm to upper frame (redrive)	Mounting	2
		Developer HVPS to cartridge contact asm	Mounting	4
		BOR drive asm to upper frame	Mounting	1
		ITU drive asm to lower frame	Mounting	3
		Fuser drive asm to lower frame	Mounting	4
		Vacuum top duct to lower frame	Mounting	2
		Toner shield to lower frame	Attach	4
		Upper deflector to lower frame (PF XPORT)	Mounting	2
		VTB asm to lower frame (PF XPORT)	Mounting	3
		Inner deflector to lower frame (PF XPORT)	Attach	1
		Jam access spring to VTB asm (PF XPORT)	Attach	1
		500 pick assembly to lower frame	Mounting	3
		Paper size sensing assembly to lower frame	Mounting	1
		Paper level sensing assembly to lower frame	Mounting	3
		Duplex actuator bracket to lower frame	Mounting	2
		Fuser top duct to lower frame	Mounting	1
		Tray interlock bellcrank to lower frame	Attach	1
		Front left light shield to upper front cover and front left handle assembly	Mounting	2
		Card support plate to frame	Mounting	2
		Card shield to lower frame	Mounting	3

Reference number	Screw type	Location	Purpose	Qty
324 	M3.5x10 mm Plastite Thread Forming	Transfer HVPS/RIP fan asm to RIP shield	Attach	1
		Front left light shield to left upper cover asm and top cover	Attach	1
		Front right light shield to right front cover support and top cover	Attach	1
		Cartridge drive assemblies to upper frame	Mounting	12
		Upper door hinges to upper frame (redrive)	Attach	2
		Inner redrive assembly to upper frame	Mounting	2
		Paper level sensing assembly to lower frame	Mounting	3
		Inner deflector/pick assembly to lower frame	Mounting	1
		RIP fan to RIP fan duct	Attach	2
412 	2.9x5.2 mm Plastite	Hinge restraint to door (MPF) SEMS	Attach	1
423 	M3.5x9 mm Plastite	Tray bias bellcrank to tray	Mounting	1
484 	M3.5x14 mm Machine Panhead	Printhead to upper frame	Mounting	12

Removal procedures

CAUTION: Remove the power cord from the printer or electrical outlet before you connect or disconnect any cable or electronic board or assembly for personal safety and to prevent damage to the printer. Disconnect any connections between the printer and PCs/peripherals. The C76xn weighs approximately 47.7 kg (105 lb) and requires at least two people to lift it safely. Make sure your fingers are not under the printer when you lift or set the printer down.

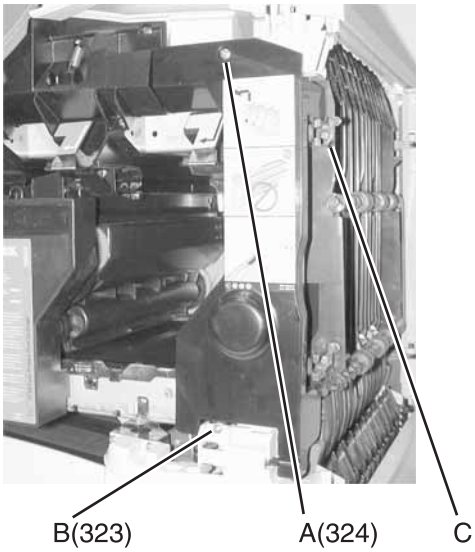
Note: Some removal procedures require removing cable ties. You must replace cable ties during reassembly to avoid pinching wires, obstructing the paper path, or restricting mechanical movement.

Top cover assembly

Go to **"Top cover assembly" on page 7-3** for part number.

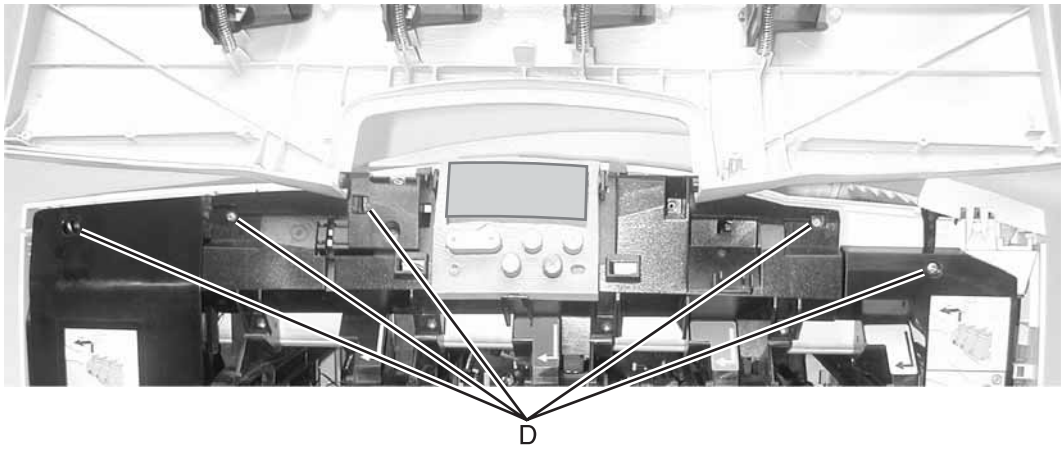
1. Remove the redrive cap.

2. Remove the right light shield screw (A) type **"324" on page 4-5** and screw (B) **"323" on page 4-3**. Also release (C).



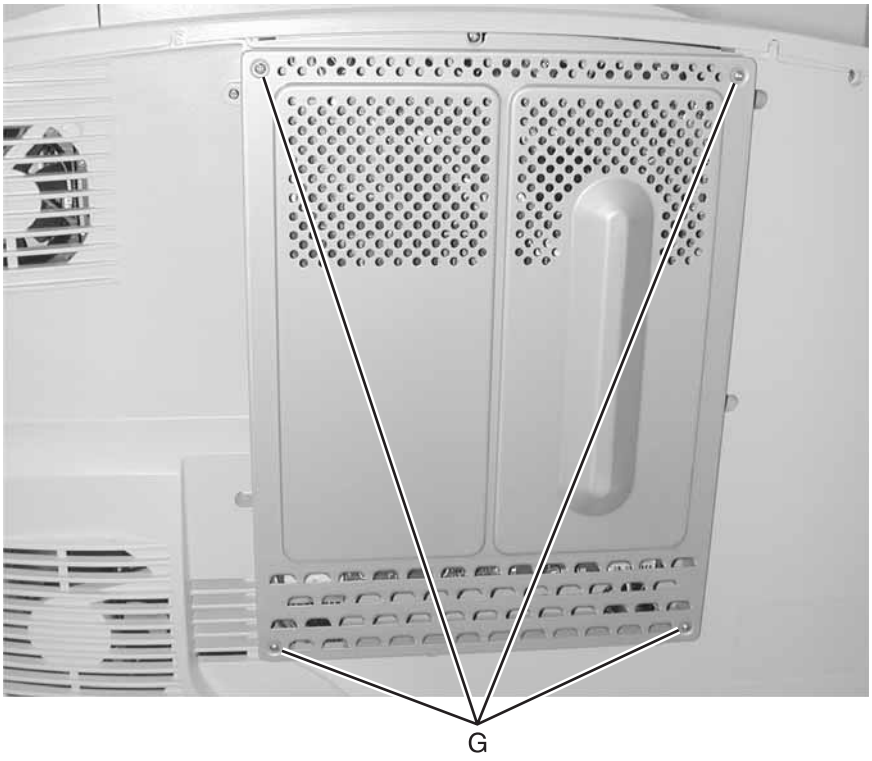
3. Remove the right light shield.
4. Unsnap the bottom of the operator panel bezel and remove.

5. Remove the top cover mounting screws (D) from the front of the printer.

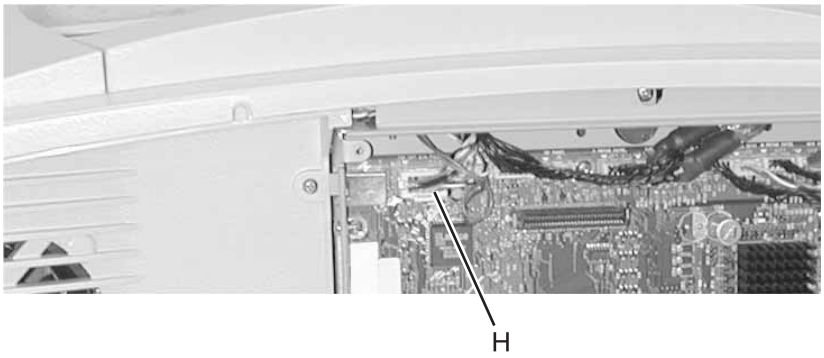


6. Remove the top cover screws (E) type **"323" on page 4-4** from the rear of the printer.
7. Open the MPF and remove the top cover screw (F) type **"323" on page 4-4** from the left side of the printer.

8. Remove four screws (G) holding the outer system board shield.



9. Disconnect the cable from J2 (H) on the system board and pull the cable through the inner system board shield.

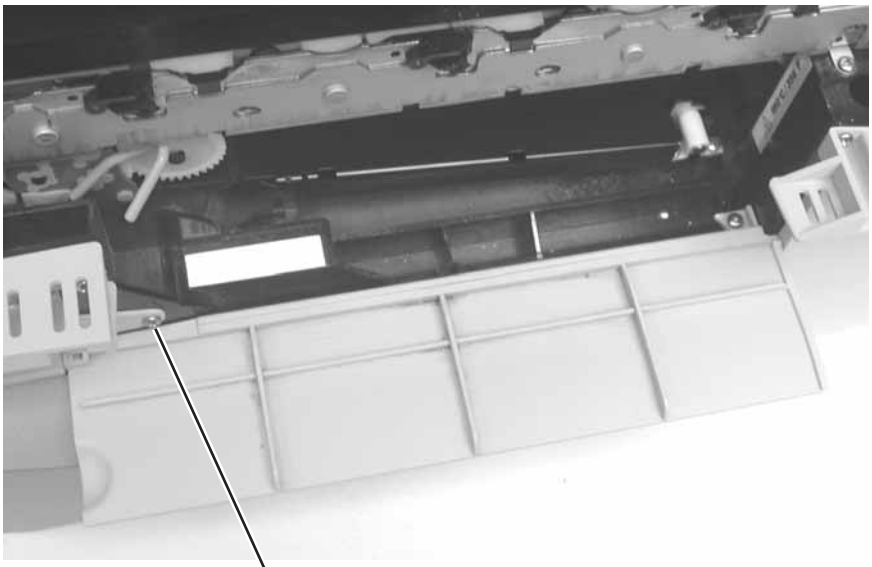


10. Remove the top cover.

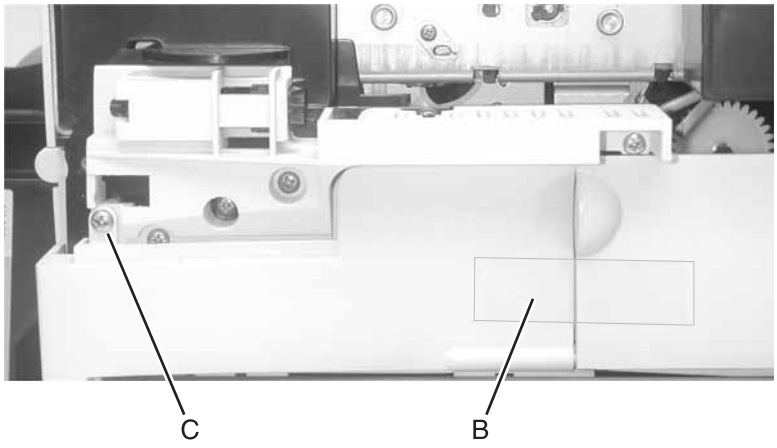
Front lower left cover

Go to **“Front lower left cover” on page 7-3** for part numbers.

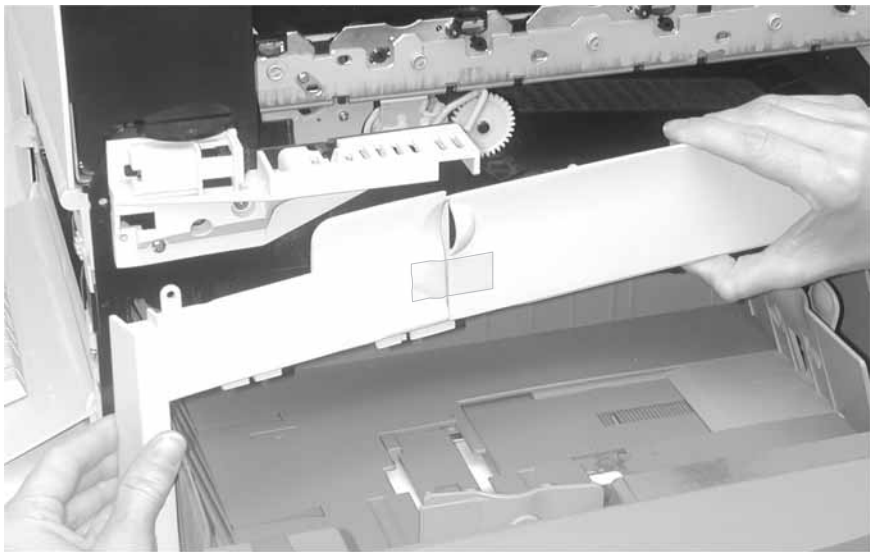
1. Remove the paper tray.
2. Open the front cover.
3. Open the paper path access door and carefully remove screw (A) type **“323” on page 4-3**, and close the door.



4. Tape front jam access door (B) if tape is available, to help hold the door in place.
   The spring loaded door is difficult to reassemble. Avoid disassembly of the door, unless you need to replace the paper path access door.
5. Remove the screw (C) in the front left handle cover assembly.



6. Remove the front lower left cover with the paper path door attached.



Paper path access door cover

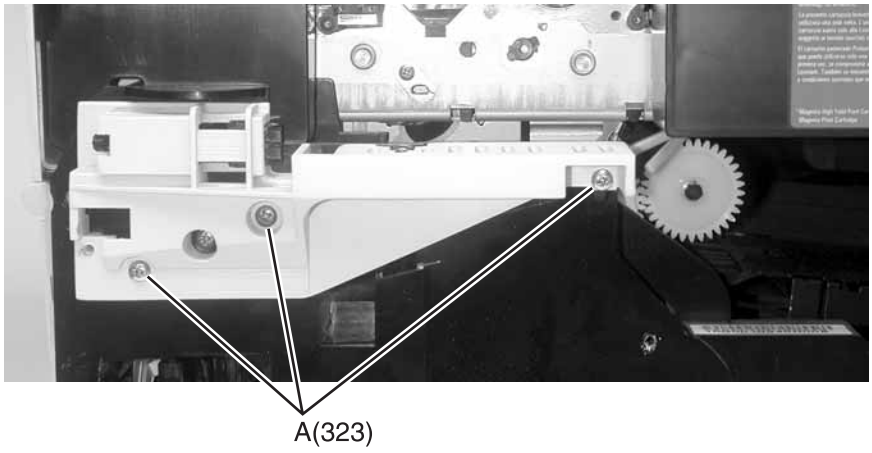
Go to **"Paper path access door" on page 7-3** for part numbers.

1. Remove the front lower left cover. See **"Front lower left cover" on page 4-10**.
2. Separate the paper path access door cover and the front lower left cover.
   Note: Do not lose the spring.

Front left handle cover assembly

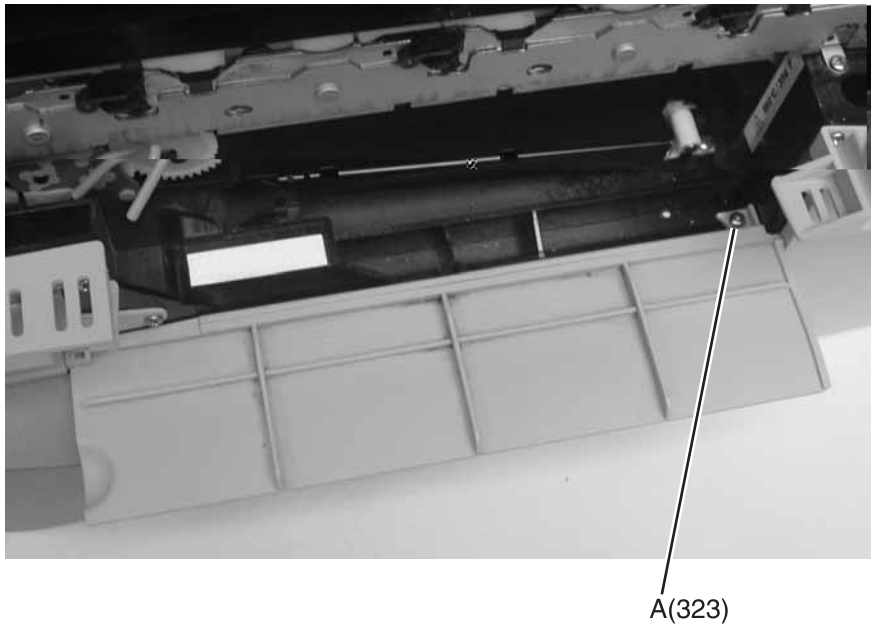
Go to **"Front left handle cover assembly" on page 7-3** for part number.

1. Remove the front lower left cover. See **"Front lower left cover" on page 4-10**.
2. Remove the three front left handle cover assembly screws (A) type **"323" on page 4-3** and remove the assembly.

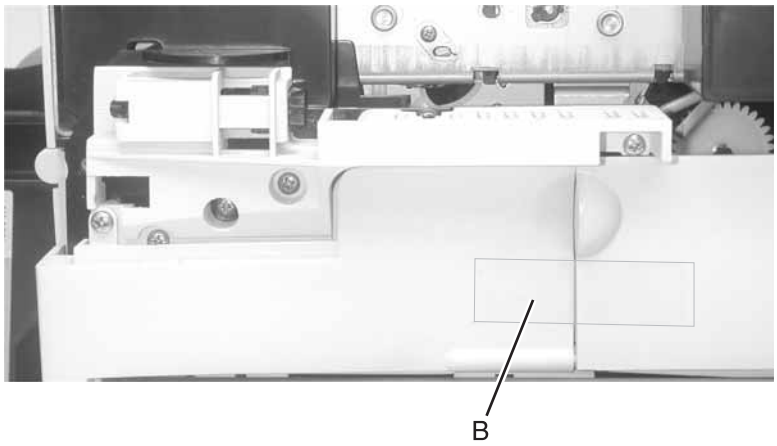


Front lower right cover

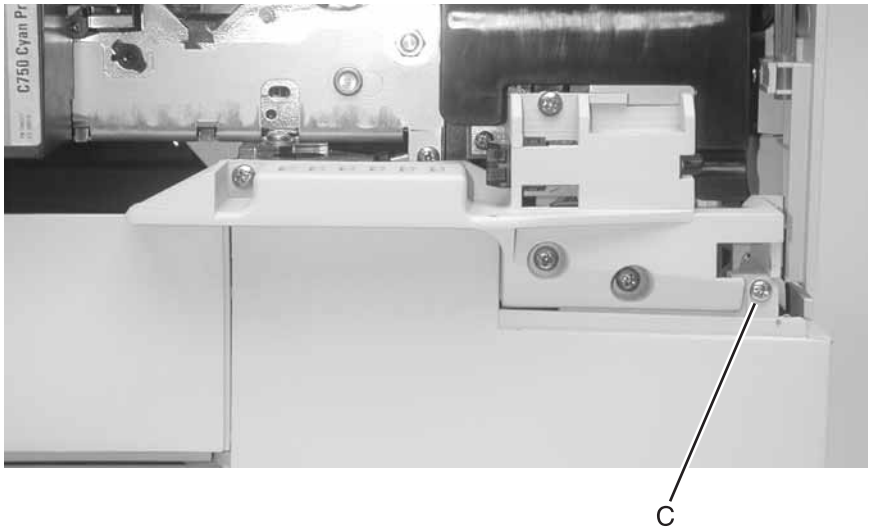
1. Remove tray.
2. Remove front right handle cover assembly. See **“Front right handle cover assembly” on page 4-13**.
3. Open the paper path access door and remove the left lower cover screw (A) type **“323” on page 4-3**.



4. Close the paper path access door and tape front jam access door (B) if tape is available, to help hold the door in place.
   The spring loaded latch is difficult to reassemble. Avoid unlatching the left side, if you just need access to the right screw.



5. Remove the screw (C) from the front lower right cover.

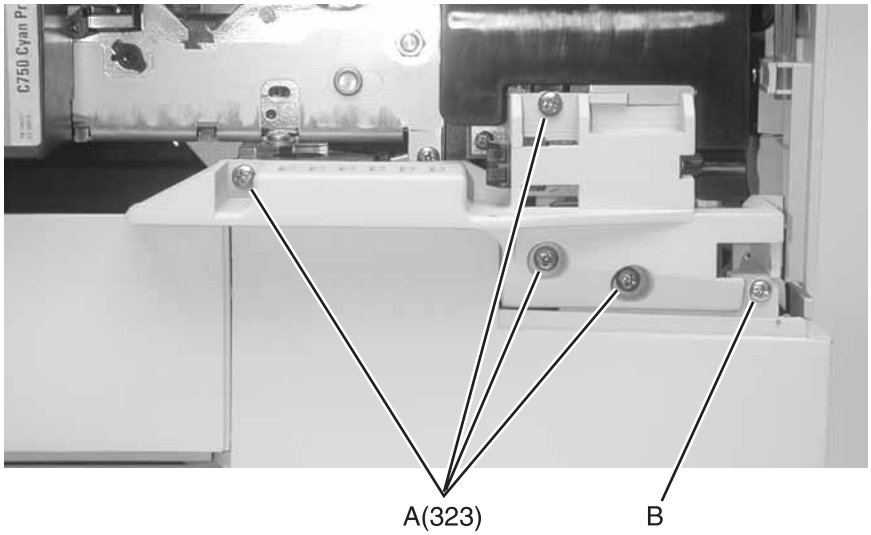


6. Remove the assembly.

Front right handle cover assembly

Go to **“Front right handle cover assembly” on page 7-3** for part number.

1. Open the front cover.
2. Remove the four front right handle cover assembly screws (A) type **“323” on page 4-3** and the screw (B) from the front lower right cover.

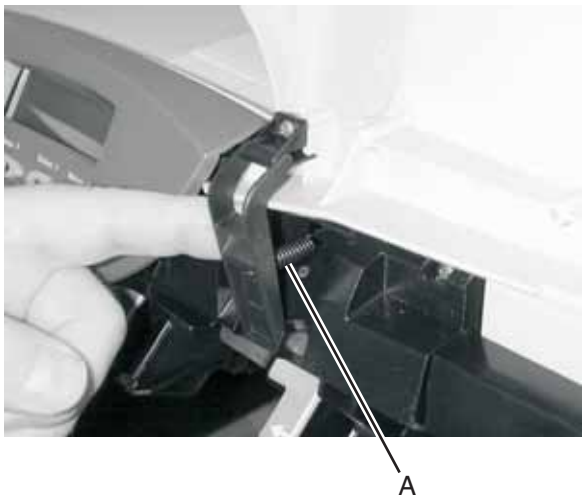


3. Remove the assembly.

Front cover assembly

Go to **“Front cover assembly” on page 7-3** for part number.

1. Open the front cover assembly.
2. Remove the detent post tension spring (A).



3. Unsnap the bottom of the operator panel bezel and remove.

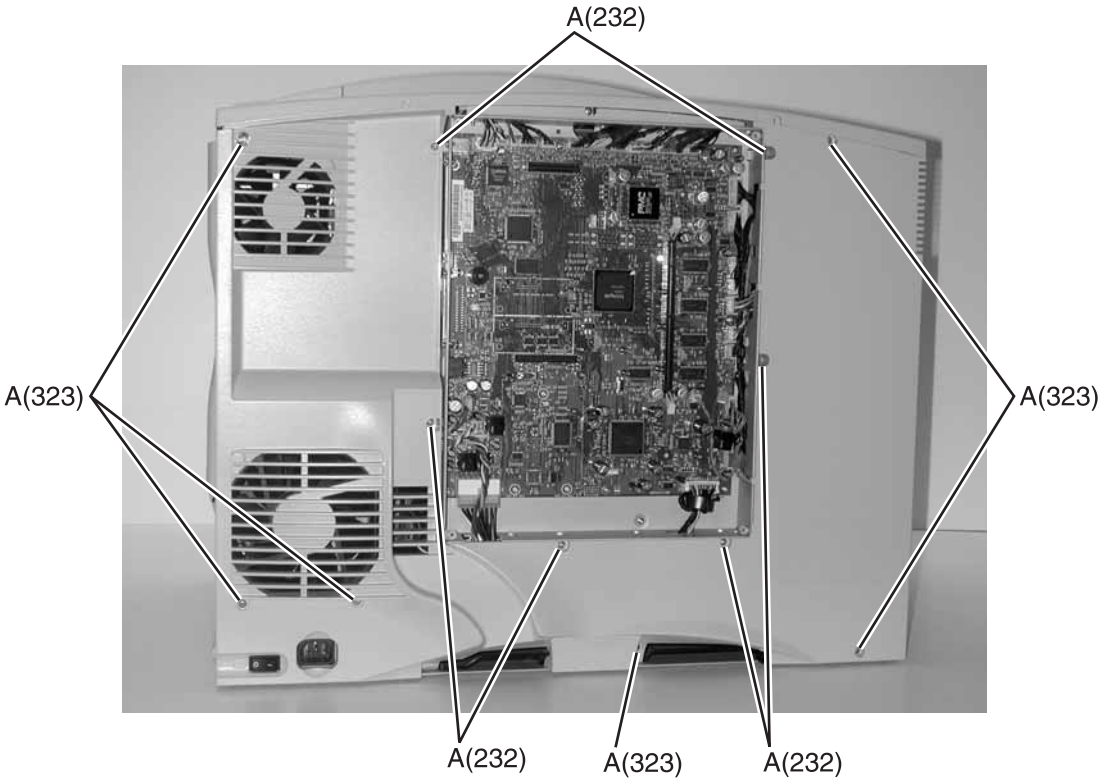
4. Hold the front cover and remove the two screws (B) from the upper front pivot cover.

5. Remove the front cover assembly.

Rear cover

Go to **“Rear cover” on page 7-5** for part number.

1. Remove the outer system board shield. See **“Outer system board shield” on page 4-54**.
2. Remove 12 rear cover screws (A) type **“232” on page 4-3** and type **“323” on page 4-3**.

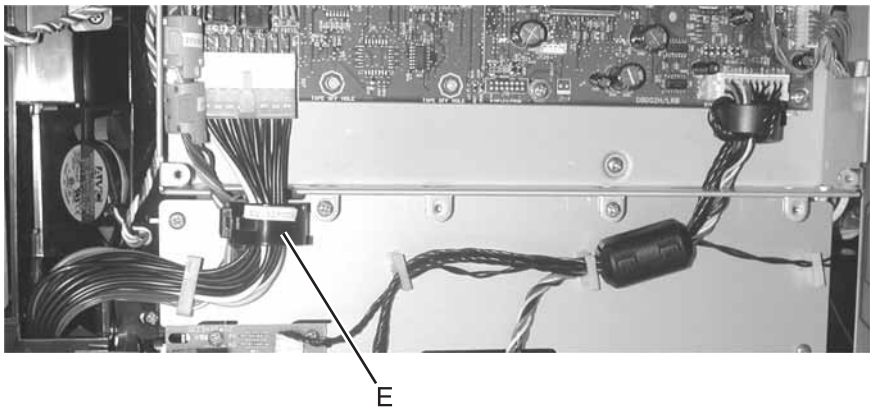


3. Open MPF door.

4. Remove two screws (B).
5. Remove tabs (C) from slots (D).

6. Remove the rear cover.

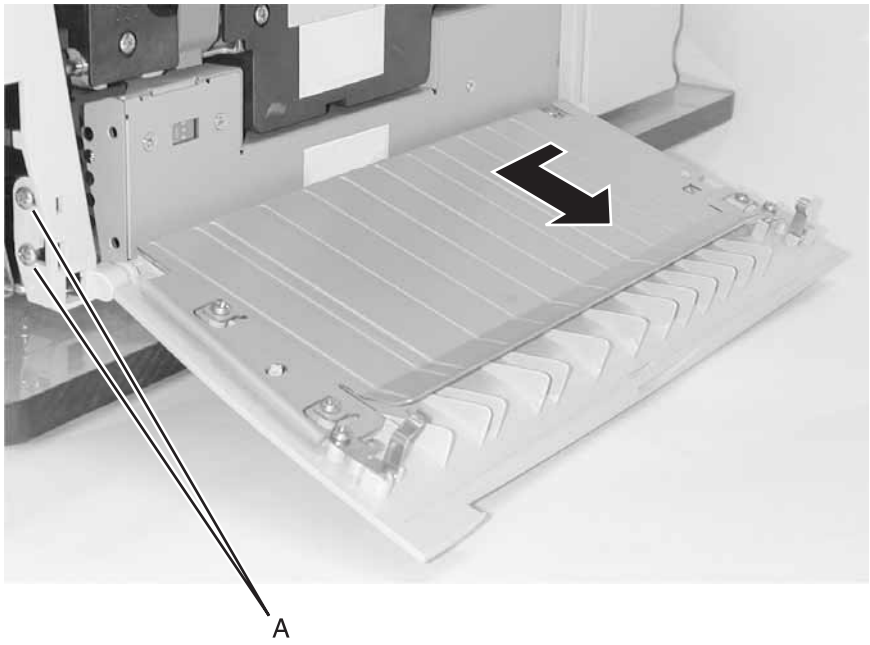
Note: Make sure the toroid (E) is positioned at the edge of the inner system board shield.



Lower right door assembly

Go to **“Lower right door assembly” on page 7-3** for part number.

1. Open the lower right door assembly.
2. Remove the front lower right cover. See **“Front lower right cover” on page 4-12**.
3. Loosen the two screws (A).

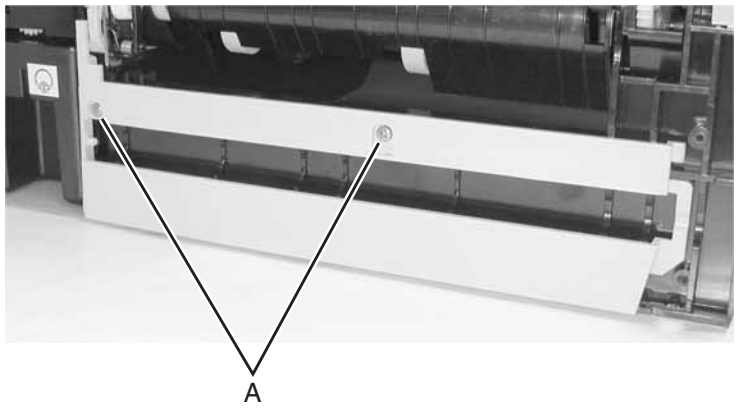


4. Remove the lower right door assembly.

Left lower cover

See **“Fuser assembly” on page 7-7** for part numbers

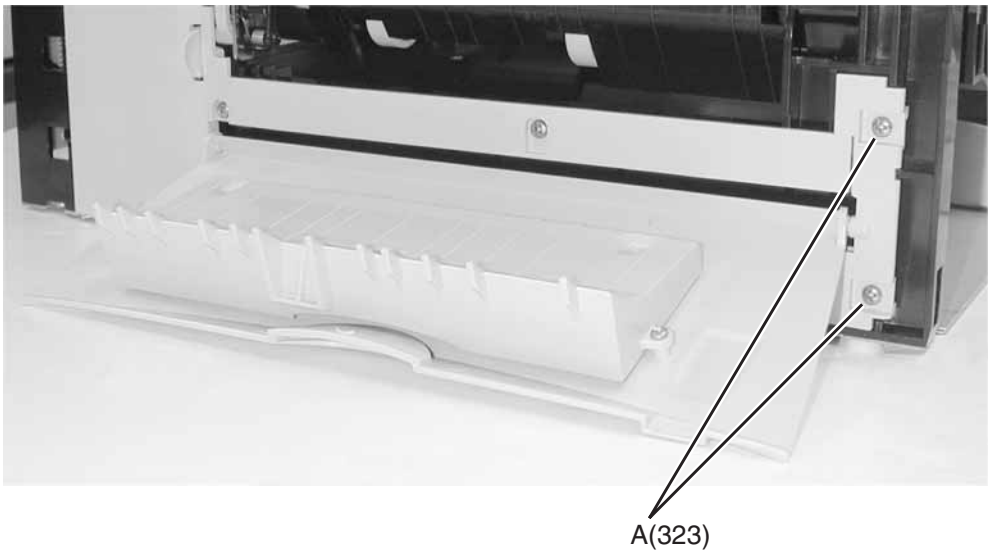
1. Remove the lower jam access door assembly. See **“Lower jam access door assembly” on page 4-19**.
2. Remove the left lower cover screws (A) type **“323” on page 4-3** and remove the cover.



Lower jam access door assembly

Go to **"Cover, left lower" on page 7-5** for part number.

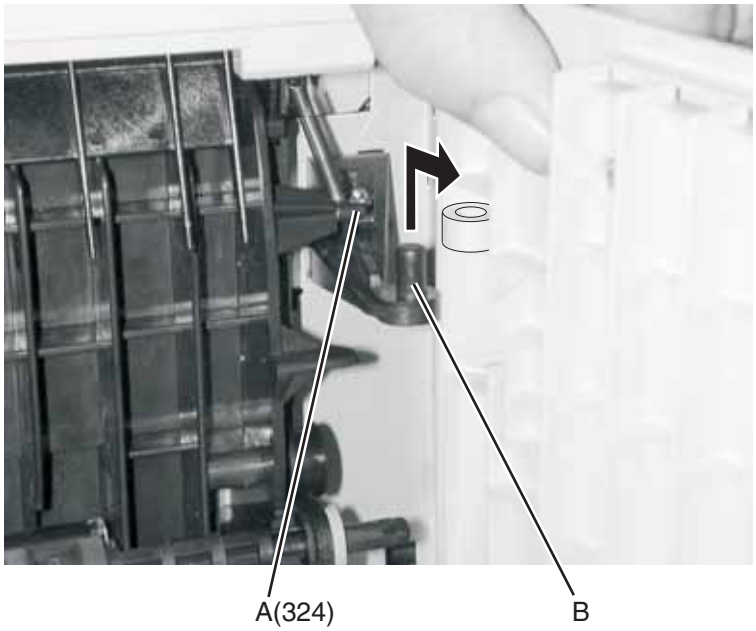
1. Remove the paper path access door cover. See **"Paper path access door cover" on page 4-11**.
2. Remove the front left handle cover assembly. See **"Front left handle cover assembly" on page 4-11**.
3. Remove the lower jam access door assembly screws (A) type **"323" on page 4-3** and remove the door.



Redrive door

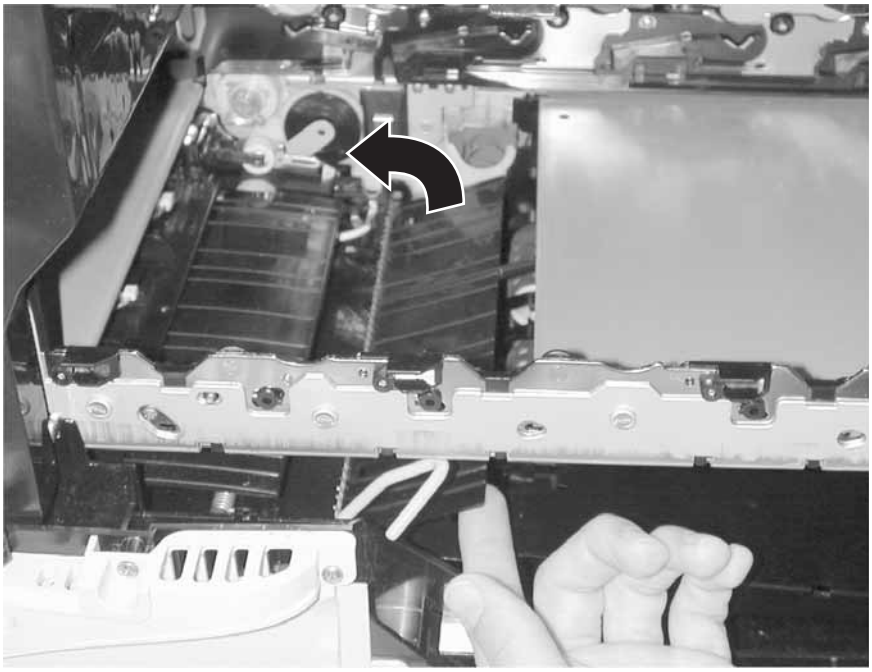
Go to **"Redrive door assembly" on page 7-14** for part number.

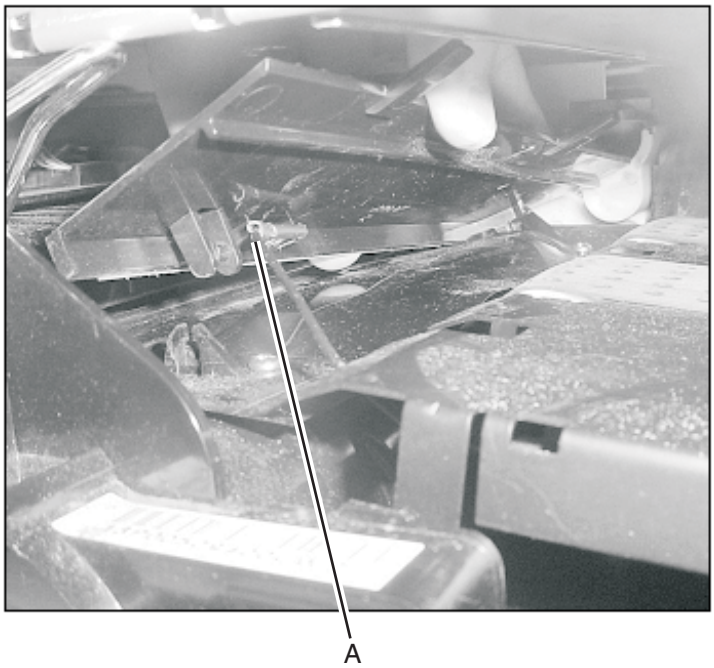
1. Open the redrive door.
2. Loosen the redrive door upper hinge screw (A) type **"324" on page 4-5**.
3. Lift the redrive door from the hinge (B) and remove the redrive door.



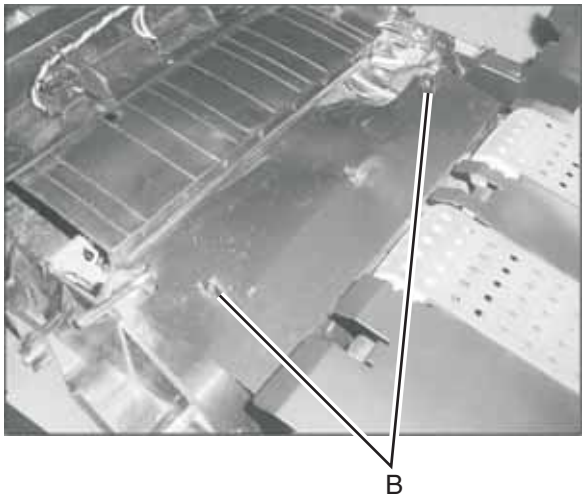
Autocompensator pick assembly

1. Remove the ITU assembly. See **“ITU assembly” on page 4-44**.
2. Remove tray 1.
3. Remove the transfer plate. Lifting and rotating the right edge of the plate up to a 45° angle releases the transfer plate. Remove the grounding strap (A) attached to the bottom of the transfer plate.

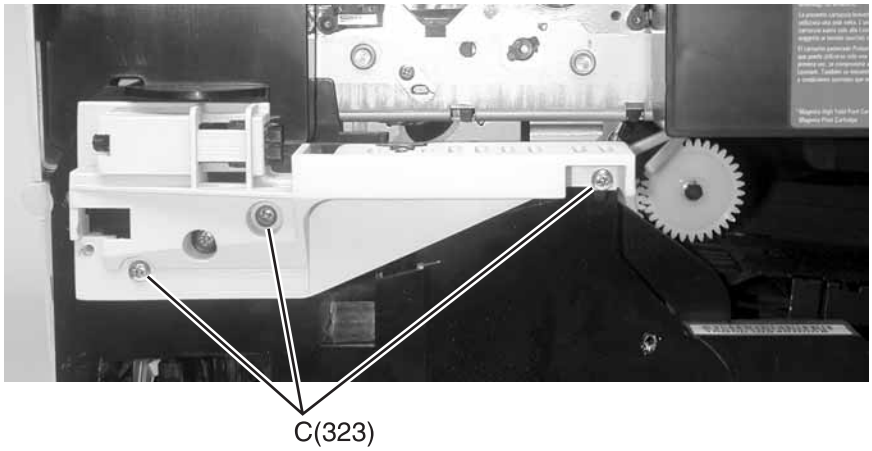




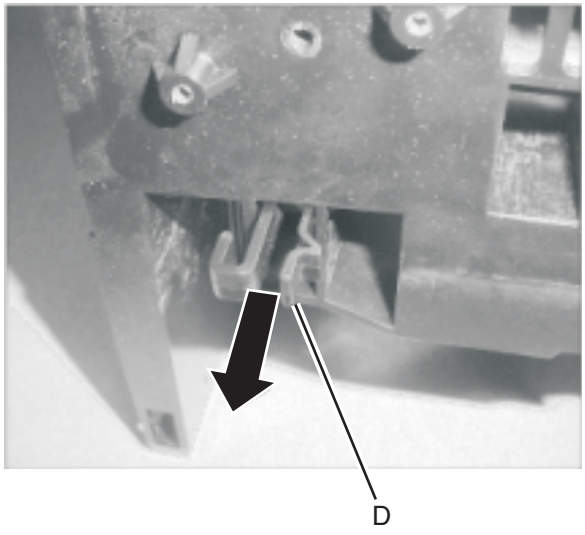
4. Remove the black mylar piece by removing the two screws (B) or cutting the cable tie.



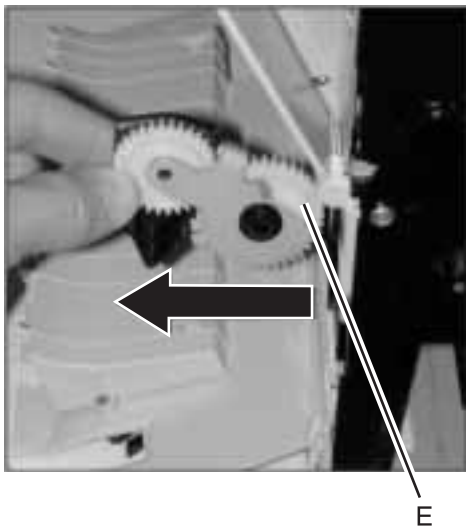
5. Remove the front lower left cover. See **“Front lower left cover” on page 4-10**.
6. Remove the three screws (C) type **“323” on page 4-3** to remove the front left handle cover assembly.



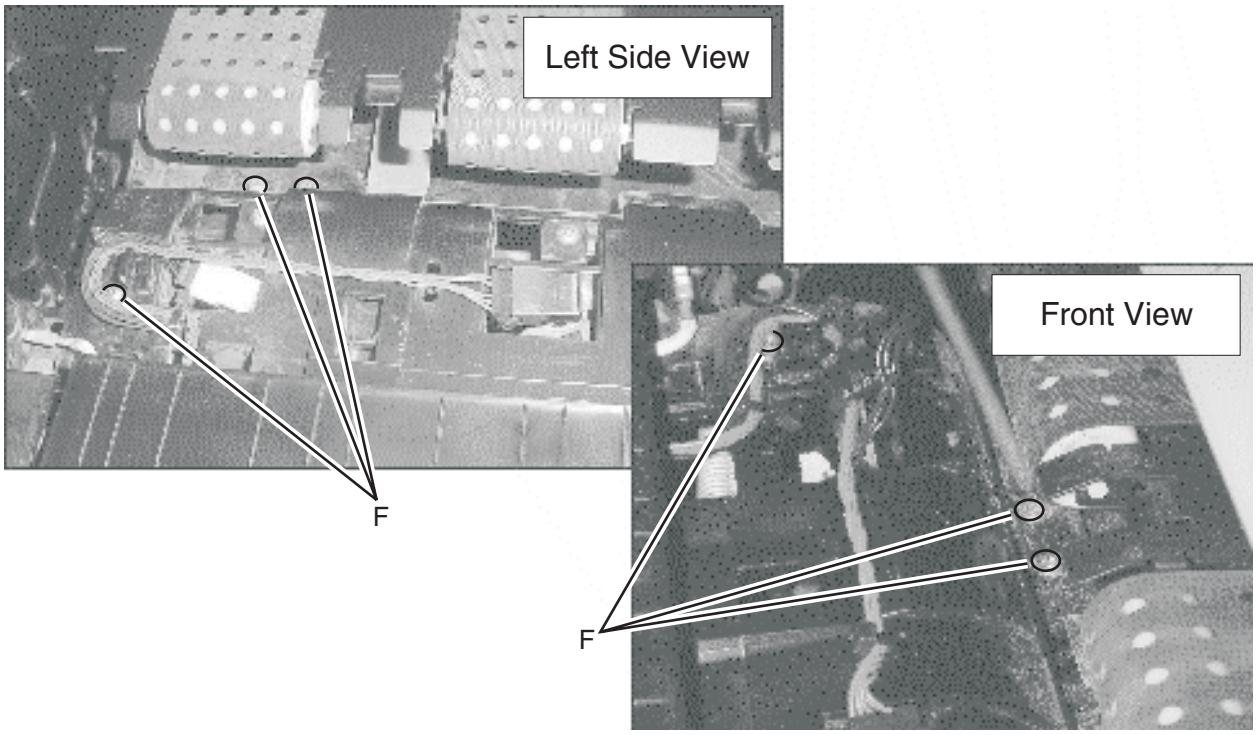
7. Remove the pin (D) that holds in the MPF swing arm assembly.

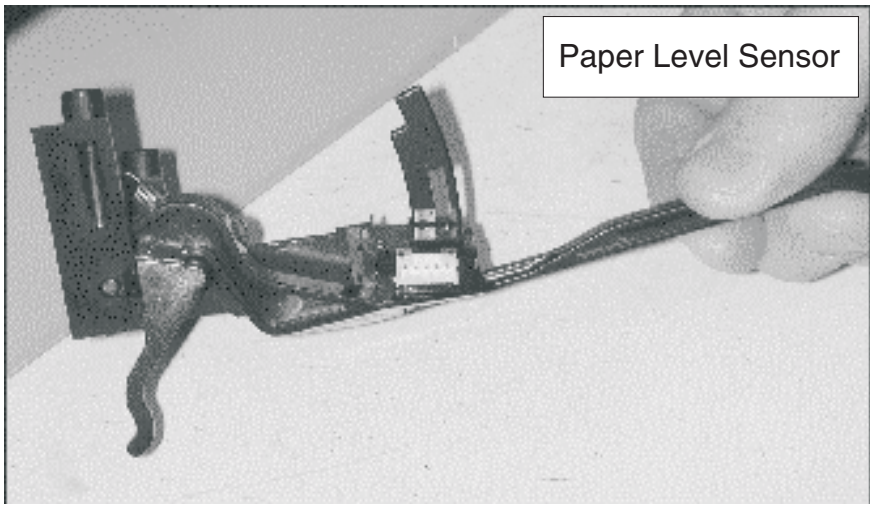


8. Remove the MPF swing arm assembly (E).

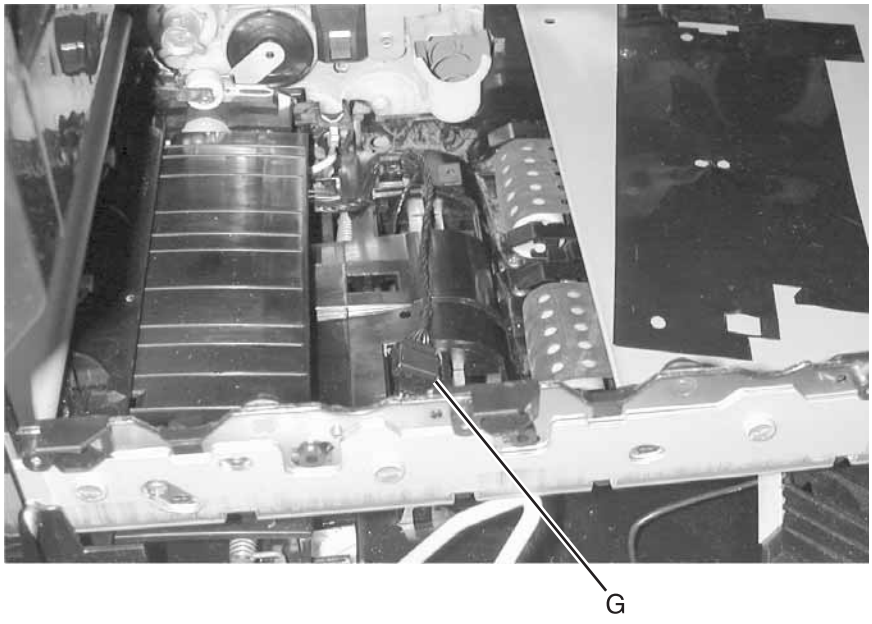


9. Remove the paper level sensor. There are two screws located under the back VTB belt. Remove both of them along with a third that is located at the rear pivot point for the transfer plate (F). This allows the paper level assembly to drop into the cavity that the tray is inserted into. Disconnect the cable from the paper level sensor. Pull the paper lever sensor cable up through the opening. Remove the paper level sensor assembly.

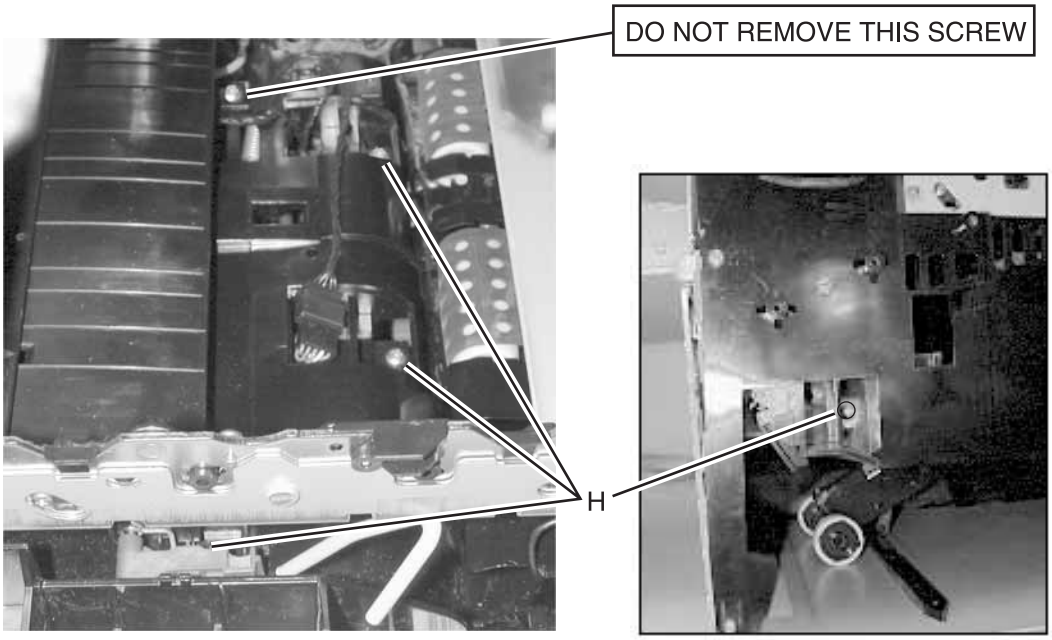




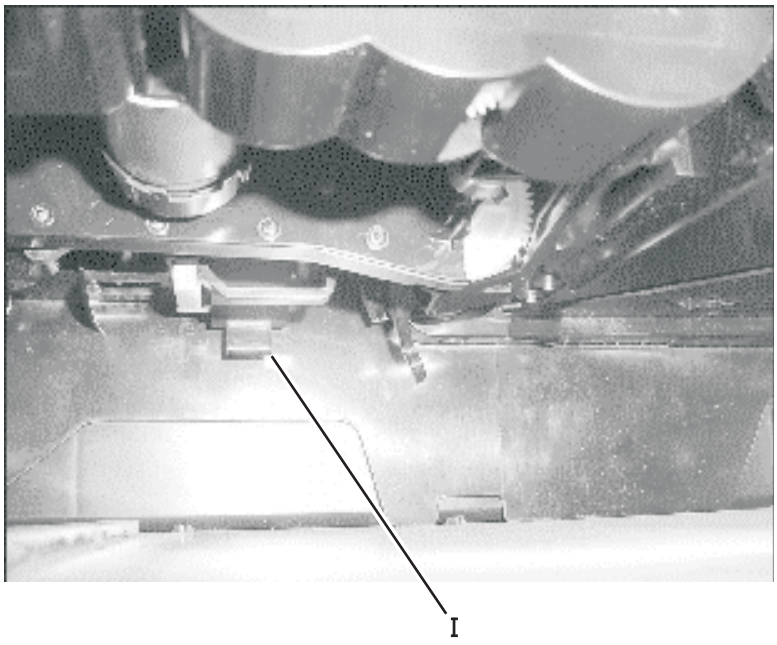
10. Disconnect the pick motor connector (G).



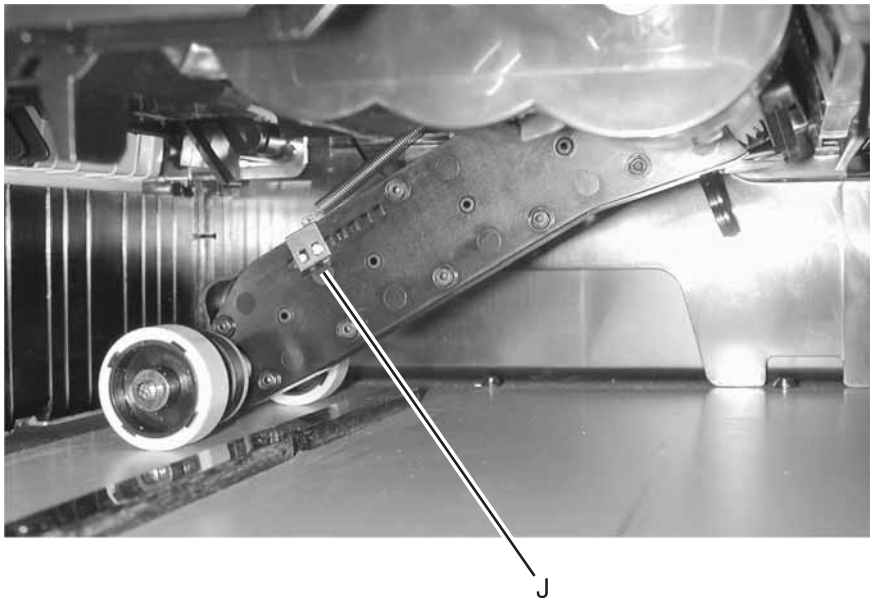
11. Remove four screws (H) holding the pick assembly in place.



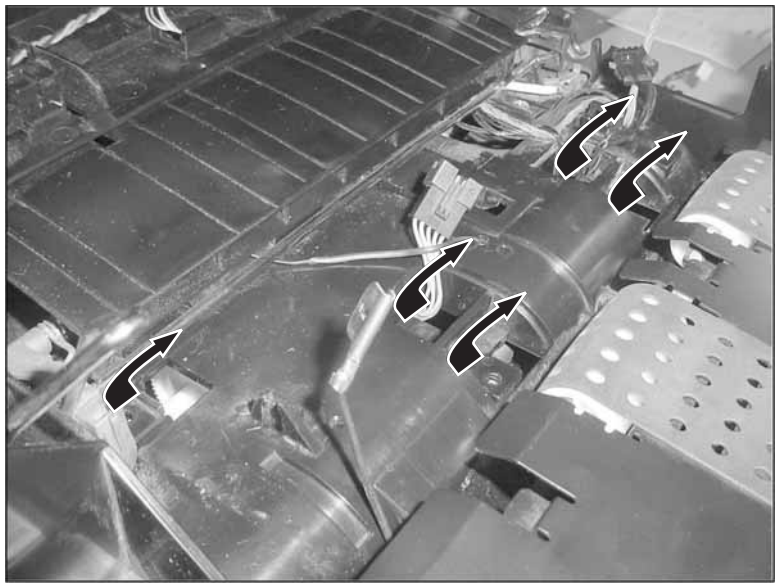
12. Push the bellcrank (I) in to allow the pick arm to fall to the bottom of the tray.



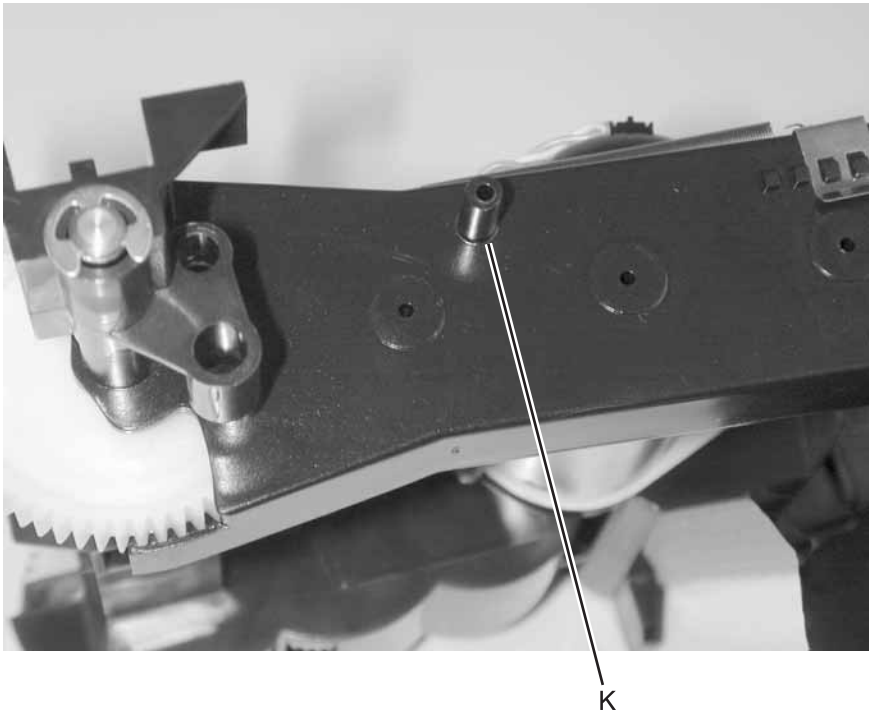
13. Disconnect the spring clip (J) from the pick arm. Be sure not to let the spring come off of the lower frame. Also identify which pegs the spring clip is sitting on. These pegs are typically marked with white paint.



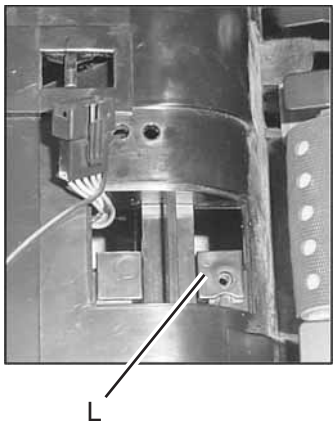
14. Leaving the pick arm down, lift the pick assembly and slide it toward the back of the machine and drop it through the holes located next to the brackets.



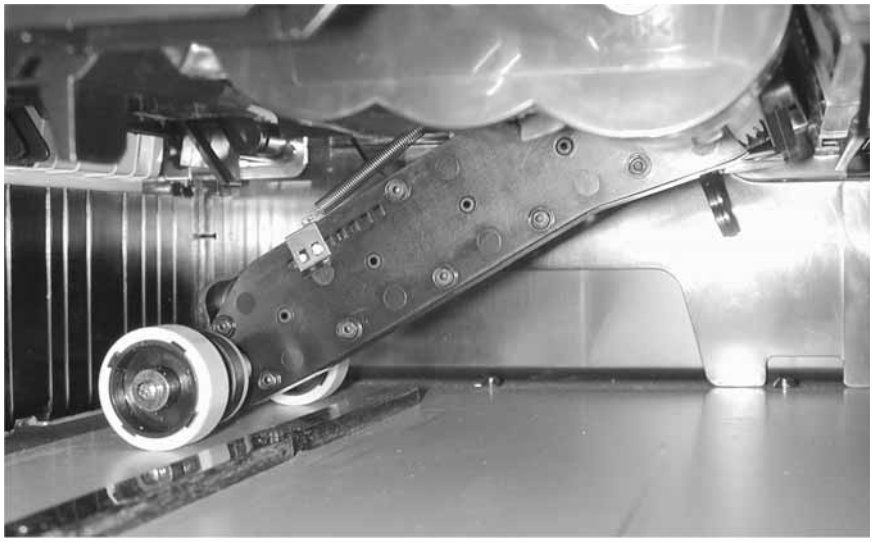
15. Put the new pick assembly into the printer. Make sure the pick motor connector is placed through the holes before you insert the brackets. Make sure the boss (K) on the pick arm is on top of the bellcrank so it can raise and lower the arm.



16. Lift the pick assembly to insert the brackets up through the appropriate openings. Once the pick assembly brackets are through their openings, slide the assembly toward the front of the machine until the half moon on the bracket is against the locator pin (L).



17. Reattach the spring clip to the pick arm. Make sure the pick arm rotates freely from top to bottom in the machine.

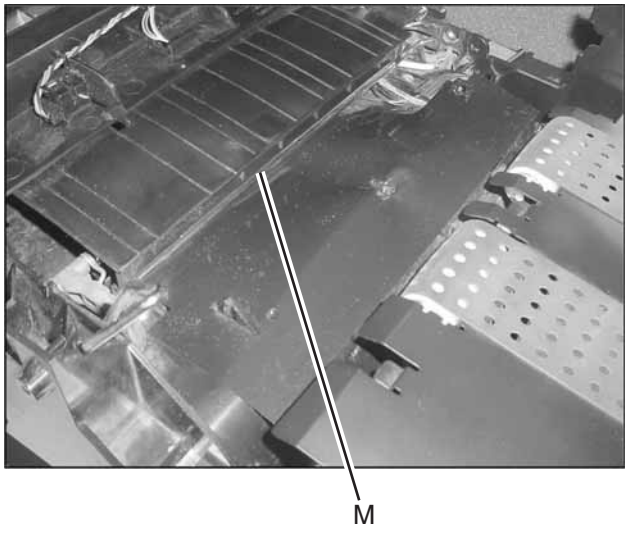


18. Once the pick assembly is in place, put the four screws for the pick assembly back into place. Placing the front side screw in first makes it easier to put in the rest of the screws. When starting the front screw, push the pick assembly towards the front of the printer.

19. Reconnect the connectors.

20. Reattach the paper lever sensor (three screws).

21. Position the mylar piece using two screws or one cable tie. When you place the mylar piece, make sure you place it back under the metal bar (M) under the inner deflector. if a cable tie is used to secure the mylar piece, make sure that the blue cable running under the mylar piece is retained by the cable tie.

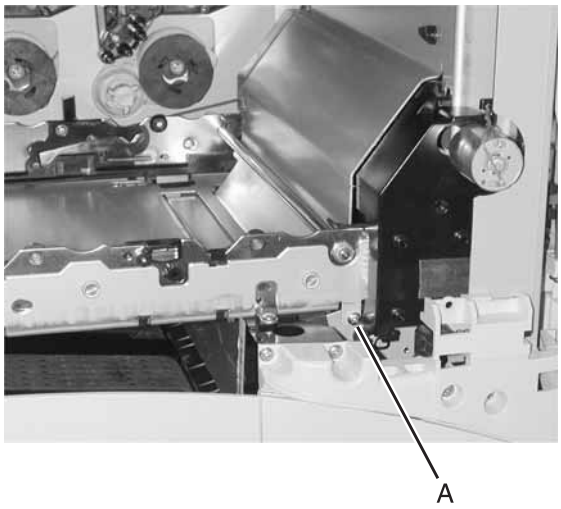


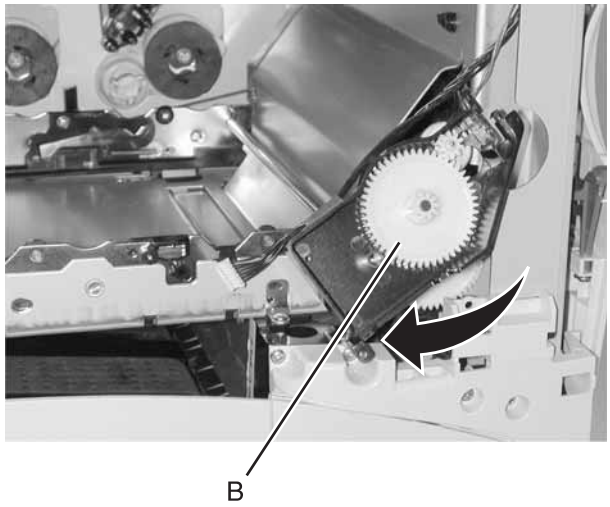
BOR drive assembly

See **“Motor assembly, Lift/BOR” on page 7-27** for part numbers.

1. Open the front cover.
2. Remove the yellow toner cartridge.
3. Remove the front right light shield cover. See **“Front right light shield” on page 4-34**.
4. Remove the BOR housing assembly screw (A) type **“323” on page 4-3** and remove the assembly.

Note: Gear (B) can easily fall from the assembly. Be careful not to drop the gear.



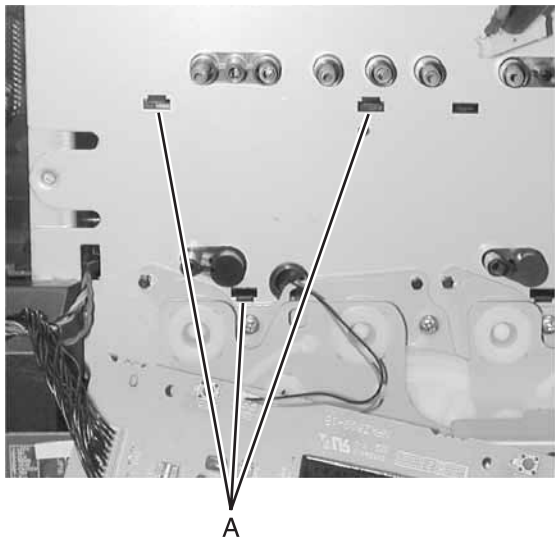


Cartridge contact assembly

Go to **“Cartridge contact assembly” on page 7-28** for part numbers.

Warning: Do not remove printheads.

1. Open the front cover.
2. Remove the toner cartridges.
3. Remove the ITU assembly. See **“ITU assembly” on page 4-44**.
4. Remove the top cover assembly. See **“Top cover assembly” on page 4-6**.
5. Remove the developer HVPS board. See **“Developer HVPS board” on page 4-31**.
6. Remove the cartridge rail front and rear mounting screws and remove the rail of selected cartridge assembly.
7. Press the cartridge contact assembly (yellow shown) retaining tabs (A) and remove the assembly.



8. Remove the screw (B) from the front of the printhead.
9. Remove the screws for the contact assembly you are removing.

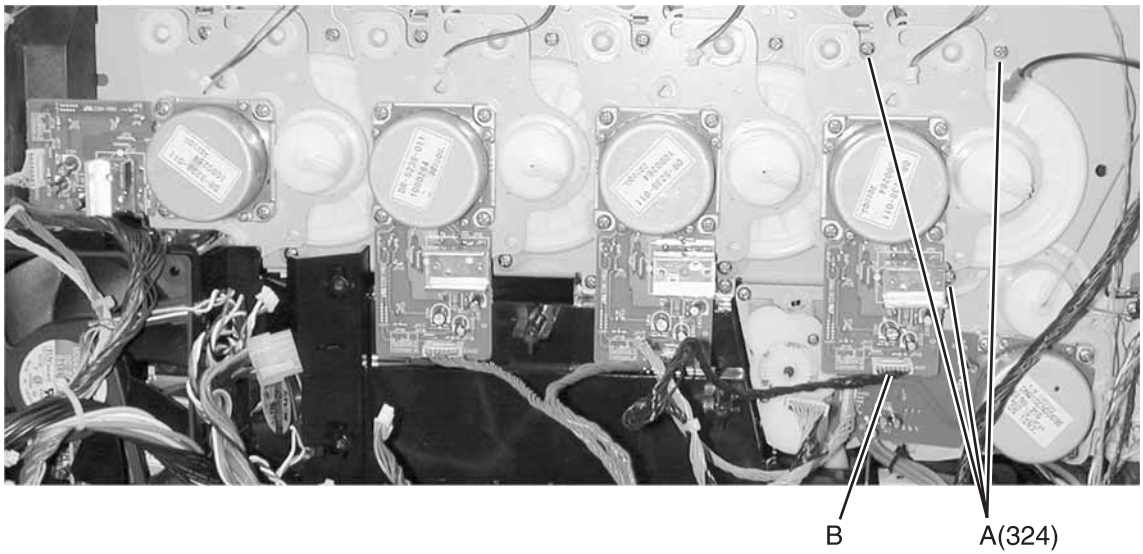
Cartridge drive assembly

Note: Drive assemblies must be removed in the following order until the desired assembly can be removed:

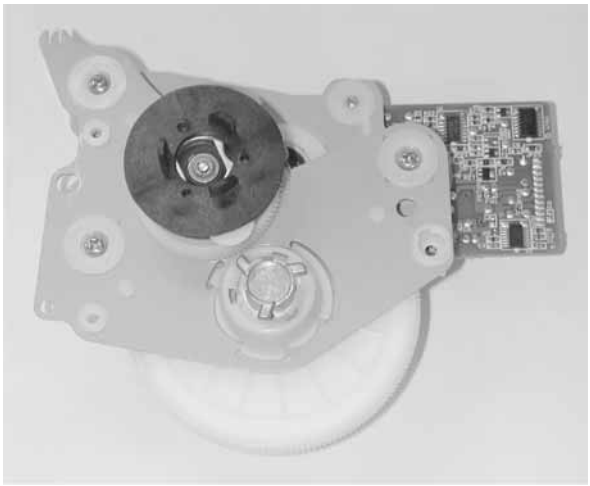
- Black
- Magenta
- Cyan
- Yellow

Go to **"Cartridge drive assembly, cyan/magenta/black (one drive assembly per package)" on page 7-29** for part number.

1. Remove inner system board shield. See **"Inner system board shield" on page 4-43**.
2. Remove the cartridge drive assembly mounting screws (A). Black is shown.
3. Disconnect the cable (B) from the cartridge drive assembly.



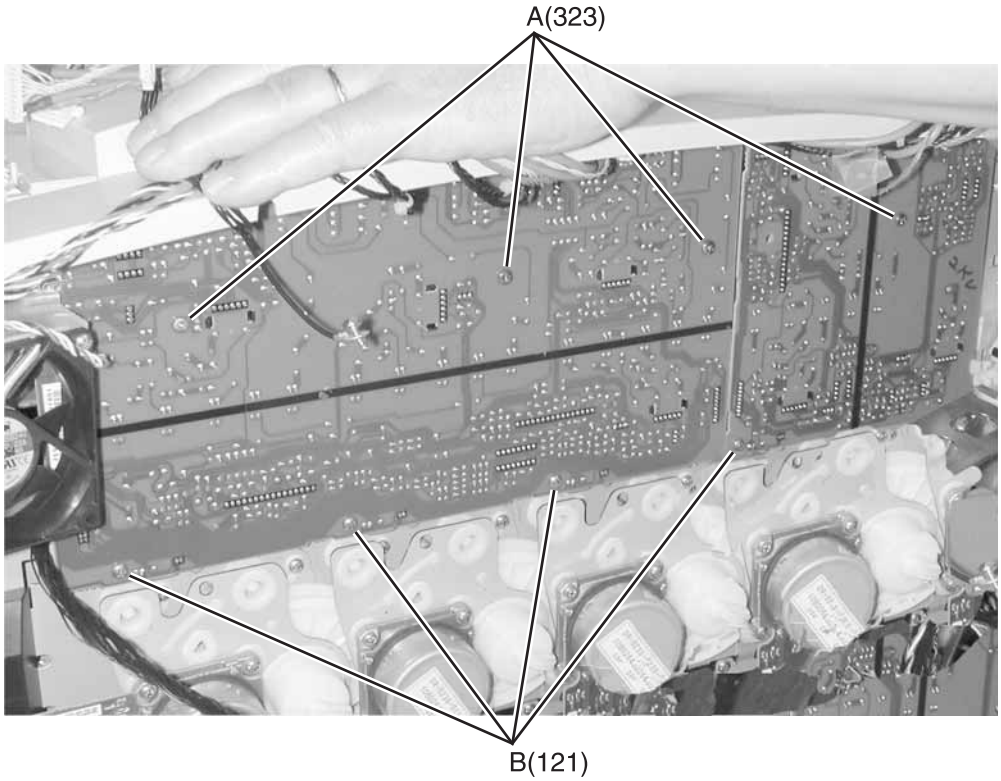
4. Remove the cartridge drive assembly.



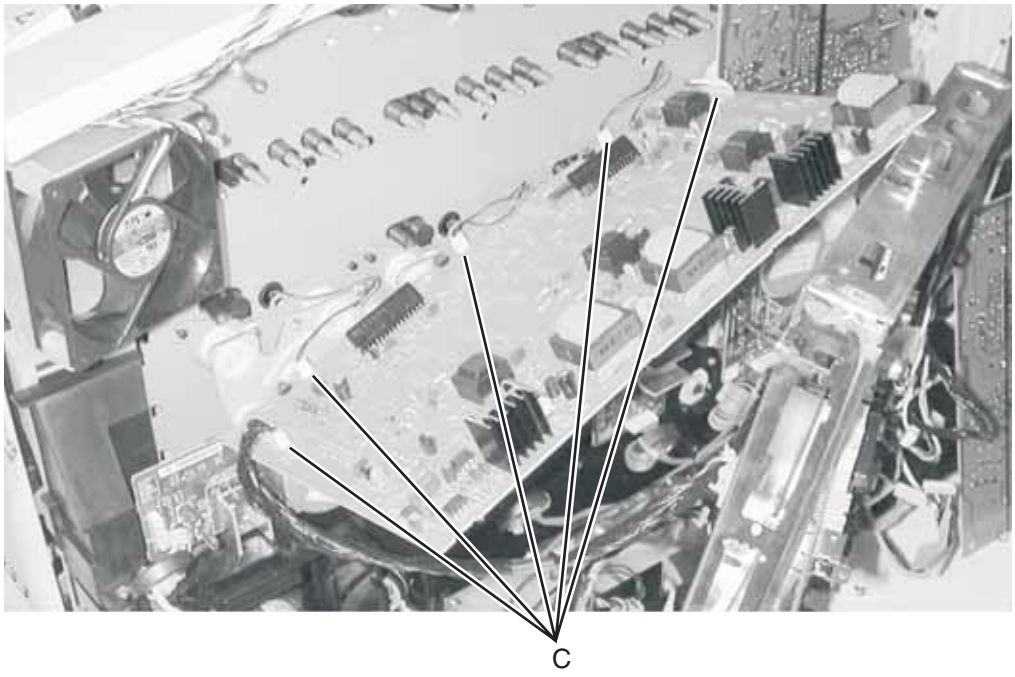
Developer HVPS board

Go to **“Developer HVPS board” on page 7-34** for part numbers.

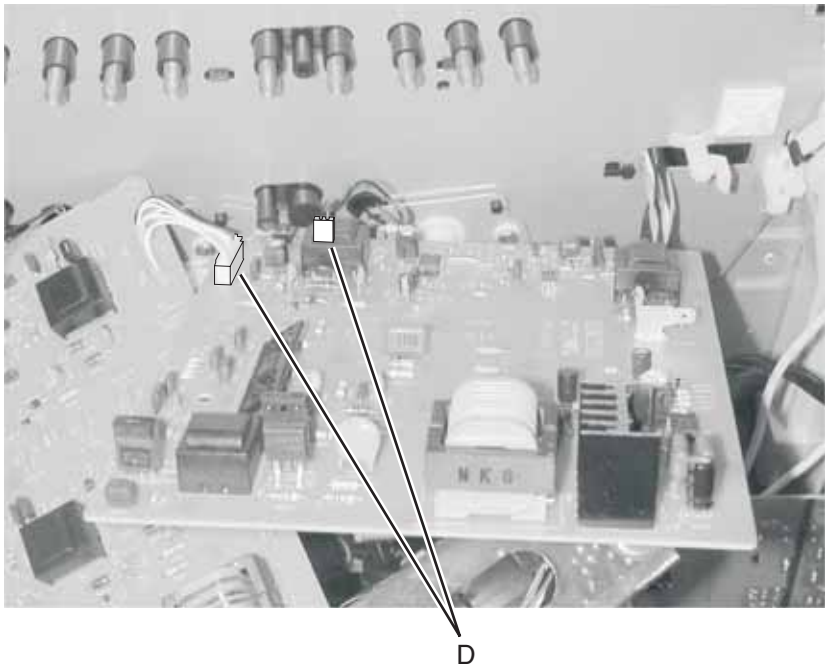
1. Remove inner system board shield. See **“Inner system board shield” on page 4-43**.
2. Remove four top machine screws (A) type **“323” on page 4-3** and four bottom screws (B) type **“121” on page 4-2** from the developer HVPS board.



3. Remove all connectors (C) from the left board.



4. Remove connectors (D) from the right board.



5. Remove the developer HVPS boards.
   Note: If you have a one piece Developer HVPS board, you can ignore steps 5 and 6.
6. Reconnect the HVPS boards.

Installation note:

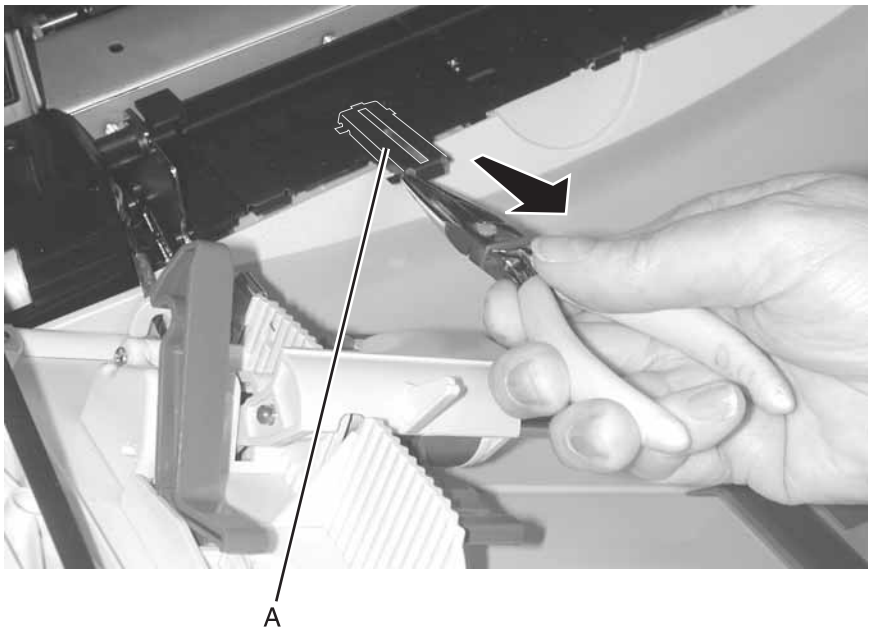
1. Disconnect the cable between boards.
   Note: You have a one piece Developer HVPS board.
2. Install the large board by attaching the bottom screws loosely, attach the top screws, then tighten the bottom screws.
3. Connect the boards
4. Install the small board in the same manner as the large board.

Note: When replacing the developer HVPS, whether one piece or two piece, verify the TMC switches are properly functioning by performing the Base Sensor Test for the black, cyan, yellow and magenta sensors. See **“BASE SENSOR TEST” on page 3-30**. If a sensor fails the test, realign the developer HVPS boards and rerun the test.

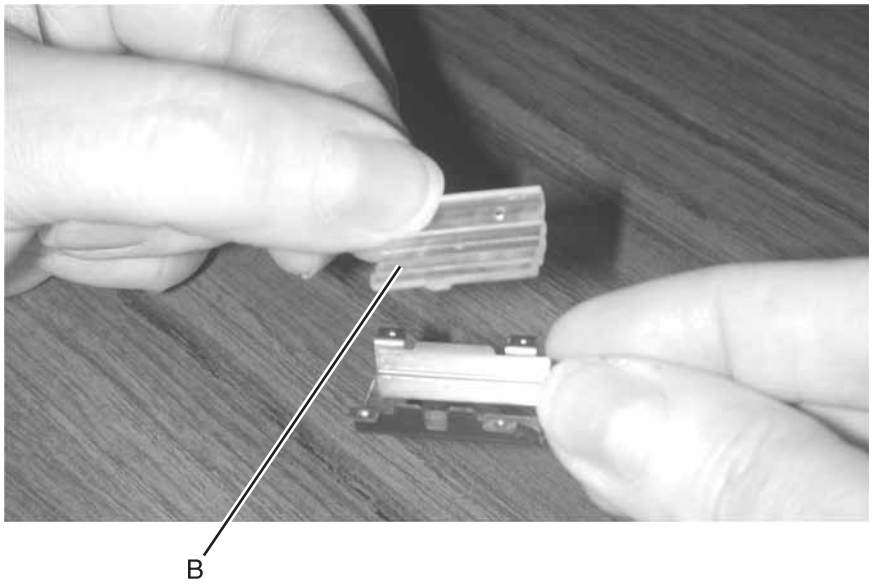
Friction buckler

Go to **“Friction buckler” on page 7-19** for part numbers

1. Press the multipurpose feeder (MPF) latch to disconnect the MPF.
2. Use needlenose pliers to remove the buckler housing (A).



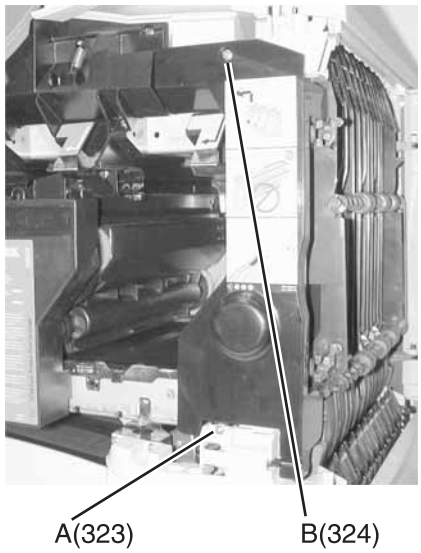
3. Replace the friction buckler (B).



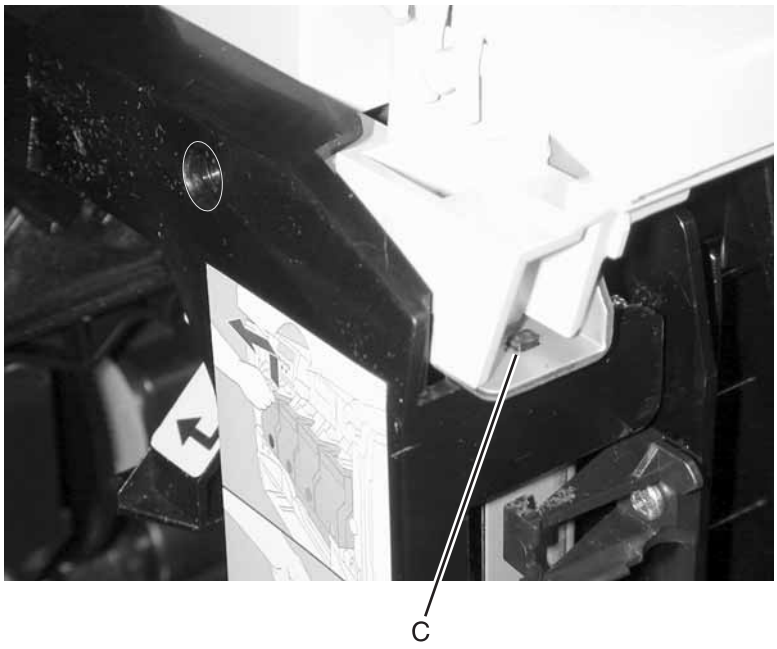
Front right light shield

Go to **“Front right light shield cover” on page 7-3** for part numbers

1. Open the top cover.
2. Remove the front right light shield screws (A) and (B).



3. Unlatch the alignment stud (C).

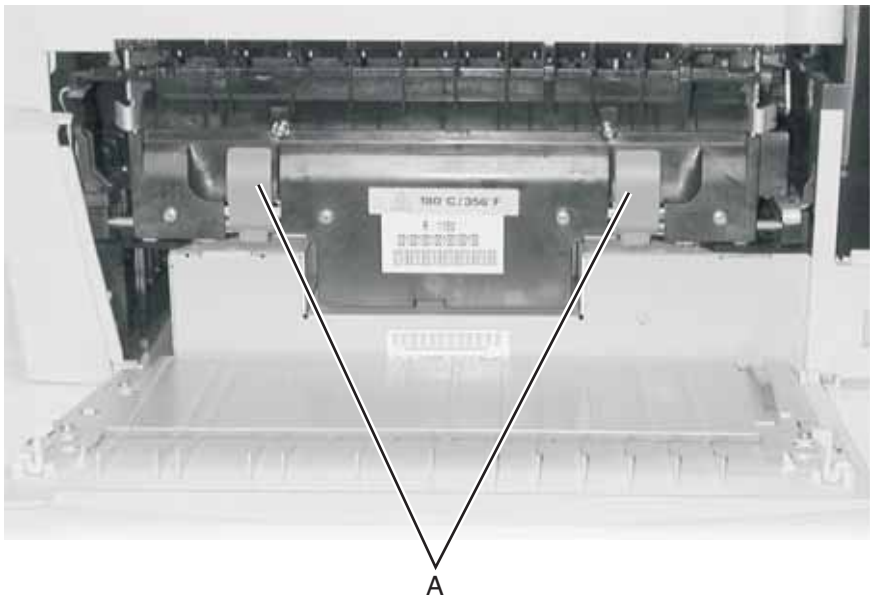


Fuser assembly

CAUTION: Be sure the fuser assembly has cooled before you remove it.

Go to **"Fuser assembly" on page 7-7** for part numbers.

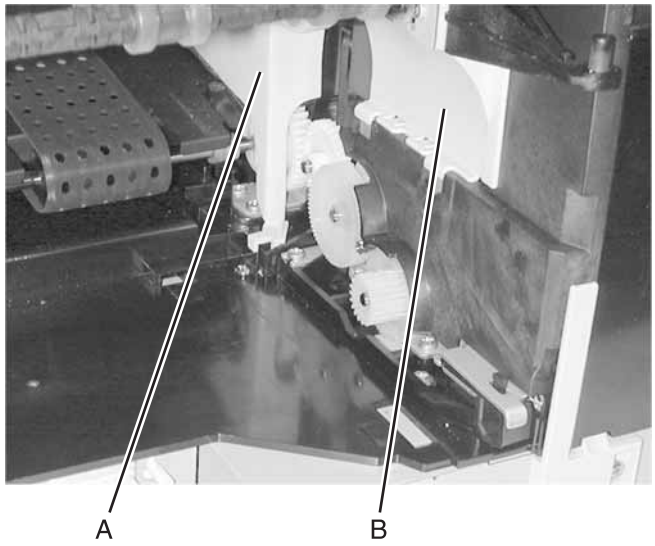
1. Open the lower right door assembly and redrive door.
2. Unlatch the two fuser latches (A).
3. Remove the fuser assembly.



Fuser bottom duct

Go to **“Fuser bottom duct” on page 7-5** for part number.

1. Remove the fuser assembly. See **“Fuser assembly” on page 4-35**.
2. Remove the fuser top duct. See **“Fuser top duct” on page 4-39**.
3. Remove the redrive belt cover duct (A).
4. Remove fuser left duct (B).

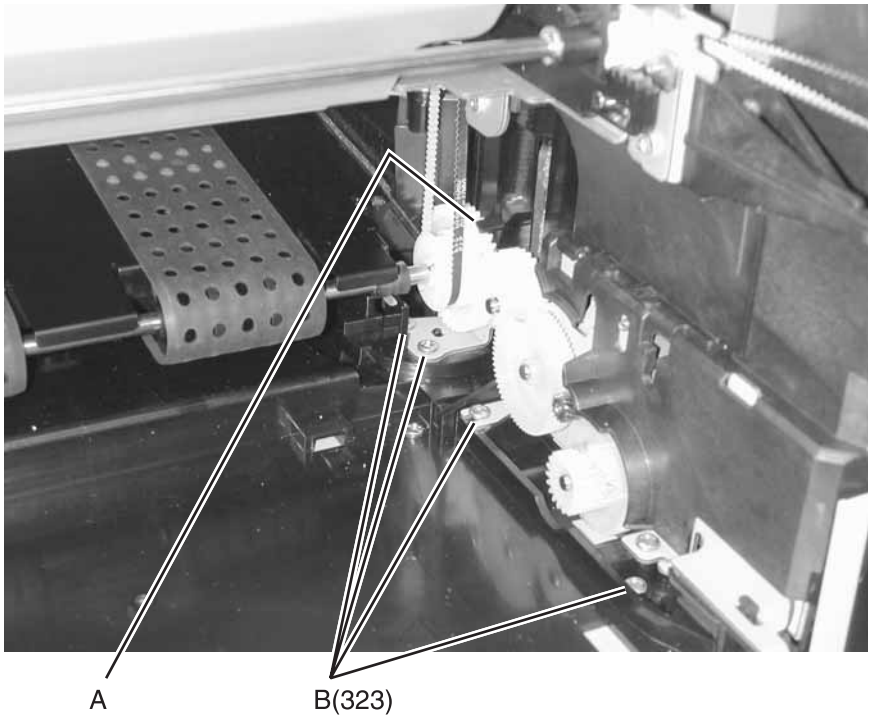


5. Remove fuser bottom duct.

Fuser drive assembly

Go to **"Fuser drive assembly" on page 7-10** for part number.

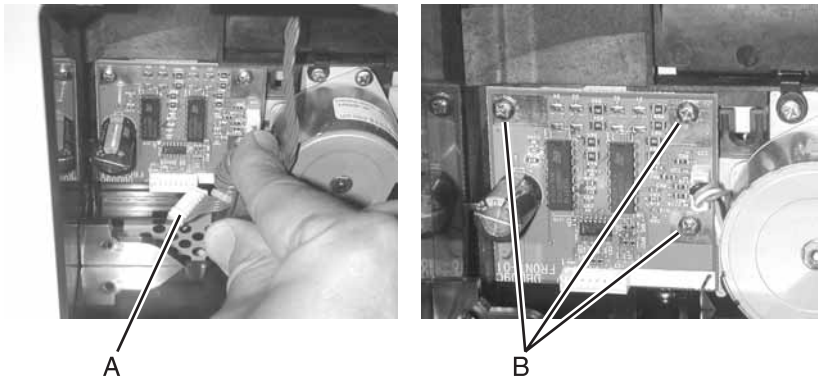
1. Remove the fuser bottom duct. See **"Fuser bottom duct" on page 4-36**.
2. Swing lever (A) and disengage VTB shaft.
3. Remove the fuser drive assembly screws (A) type **"323" on page 4-3** and remove the assembly.



Fuser drive card assembly

Go to **"Card assembly - fuser drive" on page 7-10** for part number.

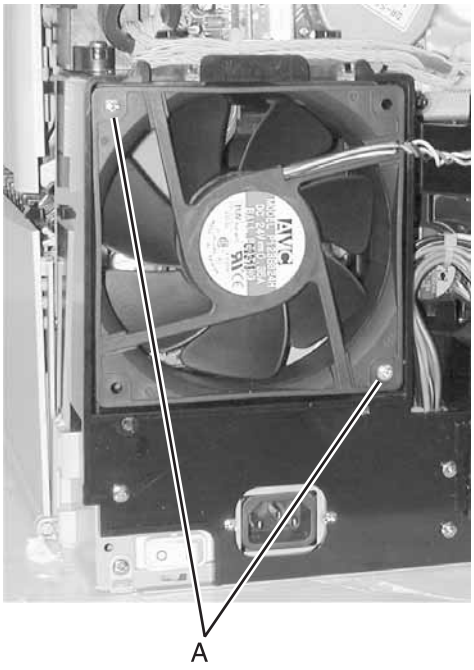
1. Remove the rear cover. See **"Rear cover" on page 4-16**.
2. Remove the fuser fan. See **"Fuser fan" on page 4-38**.
3. Disconnect the cable (A).
4. Remove the three screws (B).



Fuser fan

Go to **“Fuser fan assembly with cable” on page 7-35** for part number.

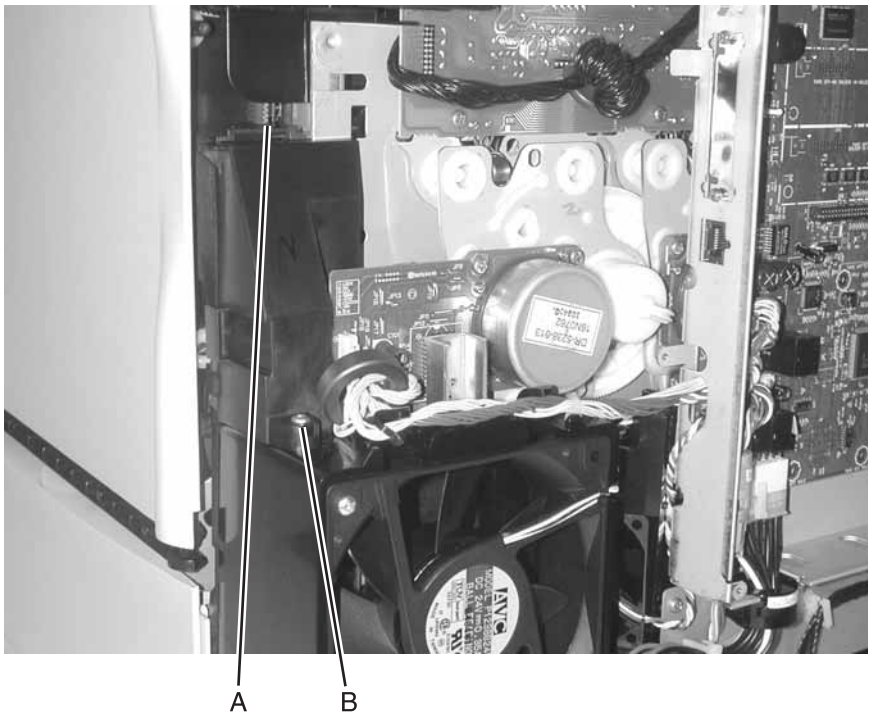
1. Remove rear cover. See **“Rear cover” on page 4-16**.
2. Disconnect the fuser fan cable from connector J31 on the system board.
3. Remove the fuser fan screws (A) and remove the fan.



Fuser top duct

Go to **“Fuser top duct” on page 7-5** for part number.

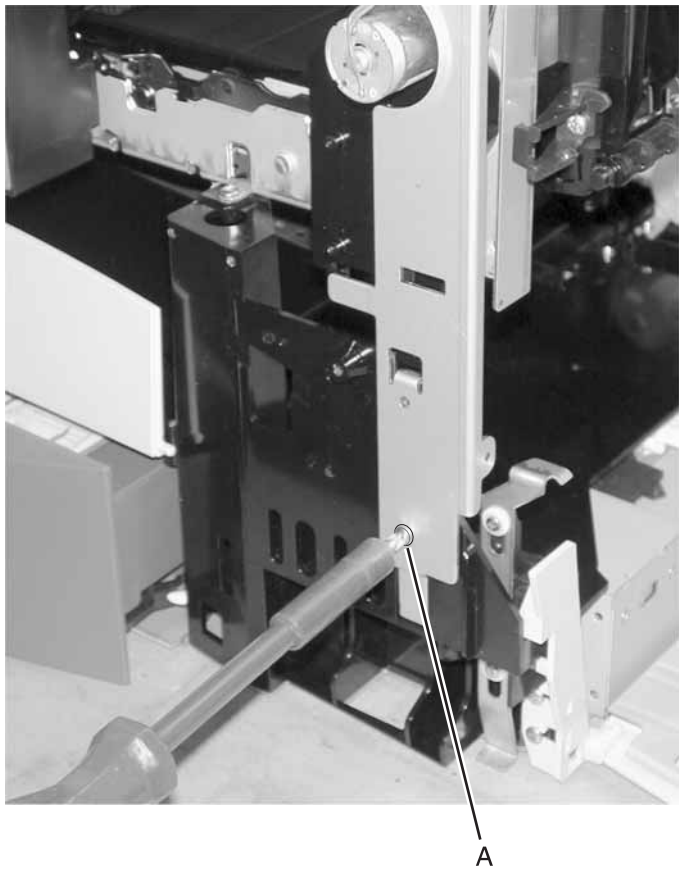
1. Remove the rear cover. See **“Rear cover” on page 4-16**.
2. Remove the fuser top duct screw (B) and disconnect tab (A).
3. Remove the top duct.



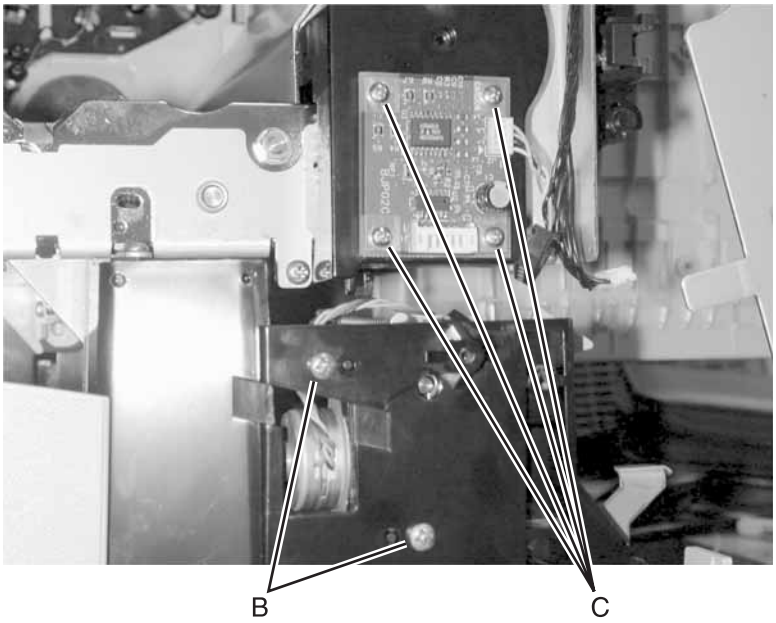
Fuser web oiler motor assembly and card

See **“Fuser assembly” on page 7-7**.

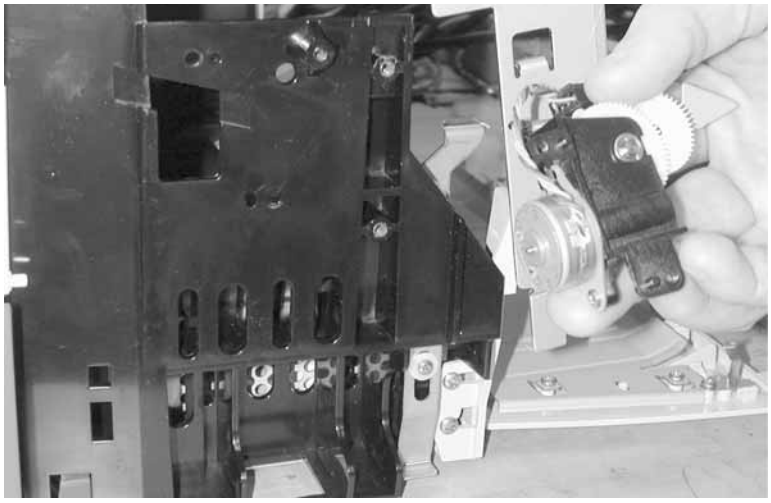
1. Open the front cover.
2. Remove the yellow print cartridge.
3. Remove the front lower right cover. See **“Front lower right cover” on page 4-12**.
4. Remove screw (A) from the top front support bracket. Swing bracket to the right.



5. Remove screws (B) for motor and screws (C) for the web oiler card.

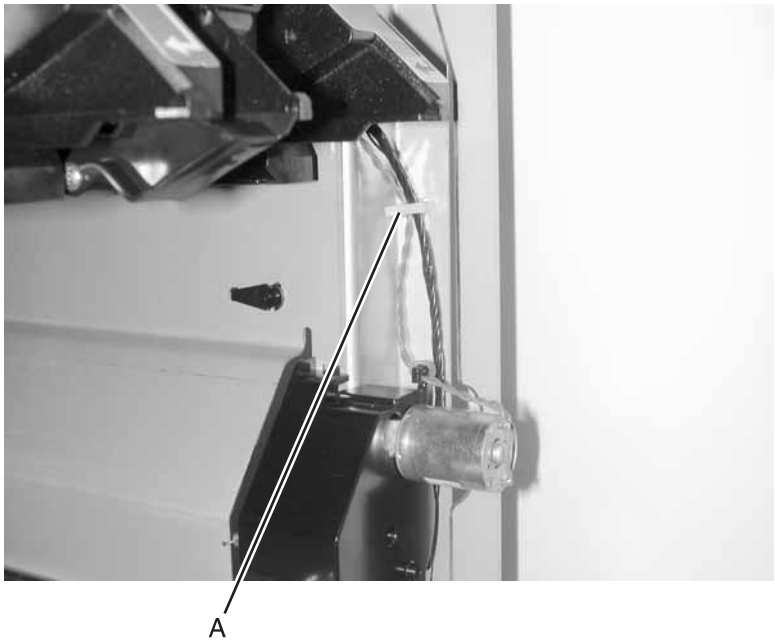


6. Remove the fuser web oiler motor assembly and card.

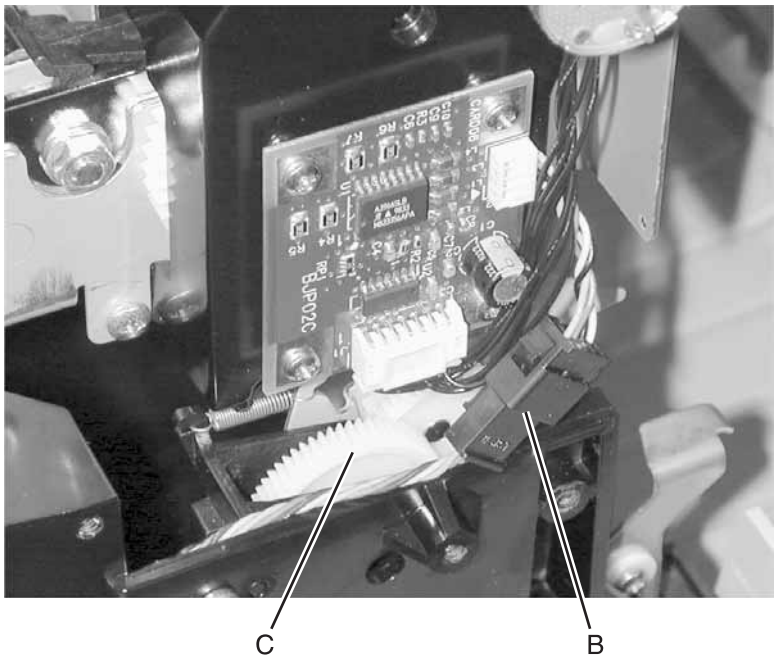


Installation notes

Note: When you reinstall the web oiler motor assembly, route the cable along the right side frame and through the cable clip (A).



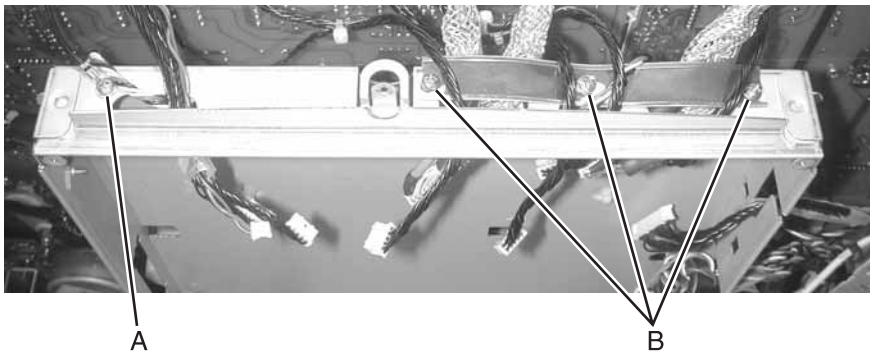
Note: Make sure the cables from the drive assembly are routed along the lower frame and are not in contact with the drive assembly gears.



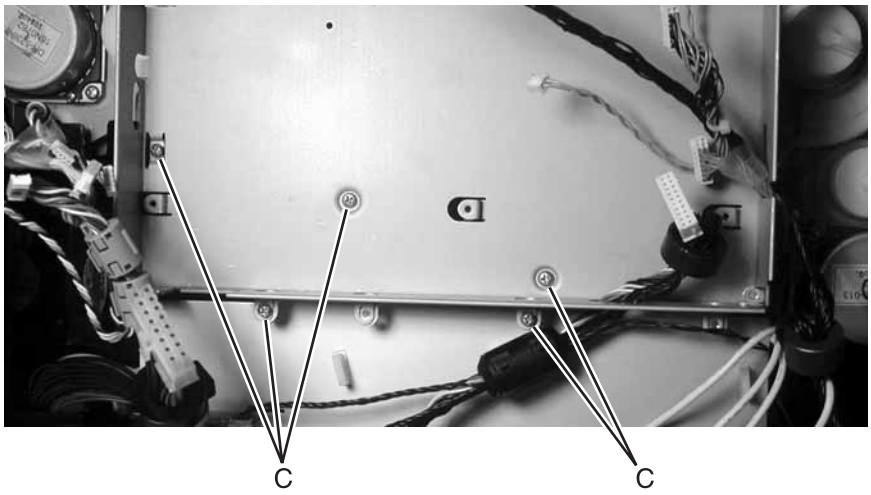
Inner system board shield

Go to **“System board shield assembly with clips” on page 7-33** for part number.

1. Remove the top cover assembly. See **“Top cover assembly” on page 4-6**.
2. Remove the rear cover. See **“Rear cover” on page 4-16**.
3. Remove the transfer HVPS board. See **“Transfer HVPS board” on page 4-73**.
4. Remove the system board. See **“System board” on page 4-72**.
5. Remove ground wire screw (A) and the cable straps (B).

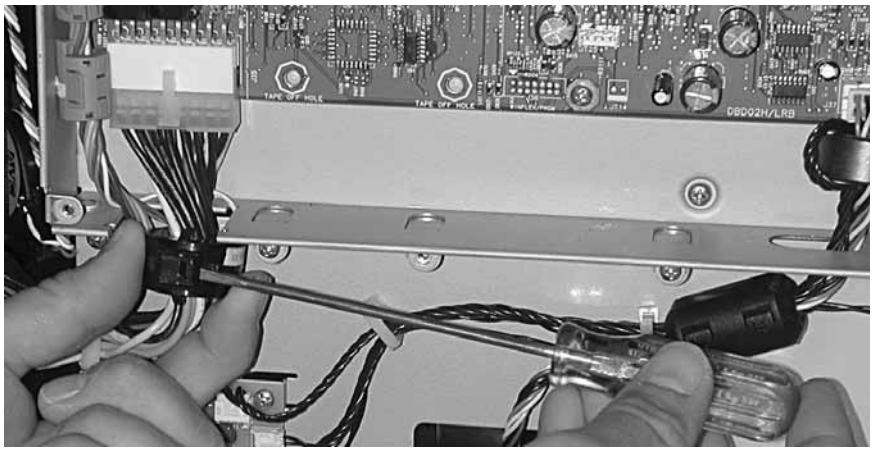


6. Remove the five screws (C).



7. Lay the inner system board shield out of the way.

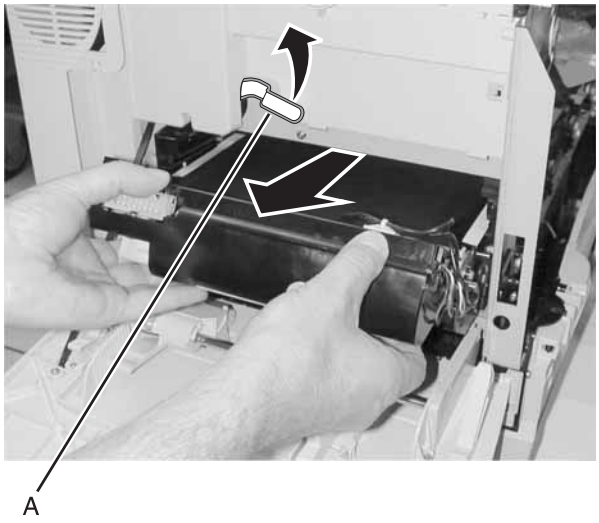
Note: If you need to remove the toroid, unclip the fastener.



ITU assembly

Go to **“ITU assembly” on page 7-22** for part number.

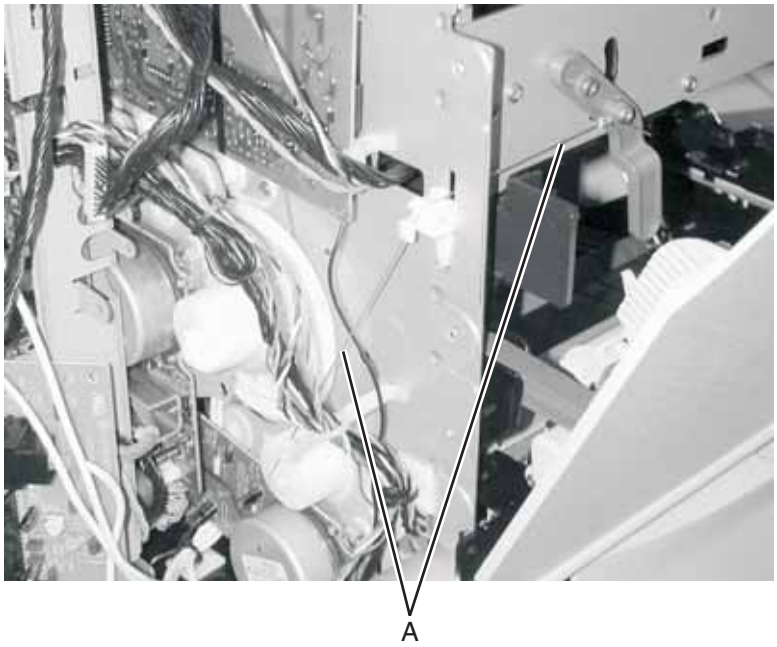
1. Open the front cover.
2. Remove the toner cartridges.
3. Open the MPF to the lowest position.
4. Raise the ITU release lever (A) and slide the ITU from the printer.



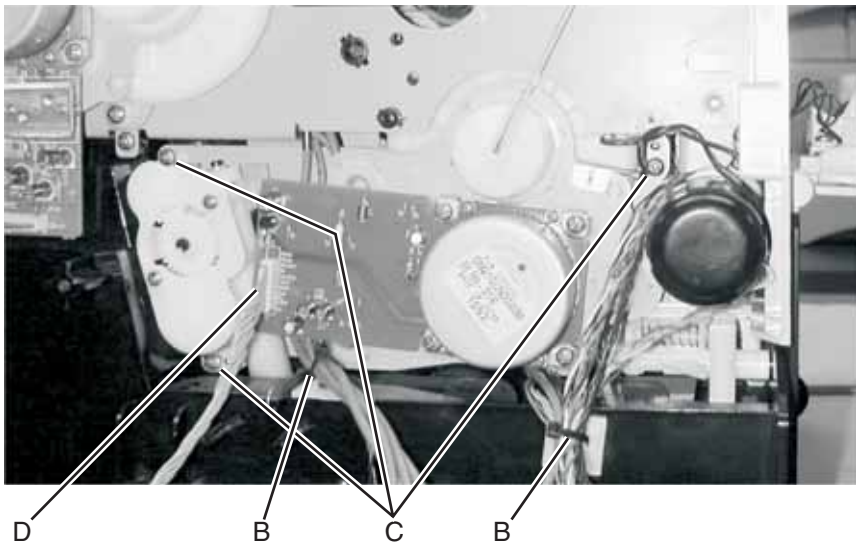
ITU drive assembly

Go to **“ITU drive assembly with motor and waste toner full switch” on page 7-41** for part number.

1. Remove the black cartridge drive assembly. See the removal for the **“Cartridge drive assembly” on page 4-30**.
2. Disconnect the ITU drive coupling cable (A).



3. Cut the two cable ties (B).
4. Remove the three ITU drive assembly mounting screws (C) and disconnect the ITU drive motor cable (D).

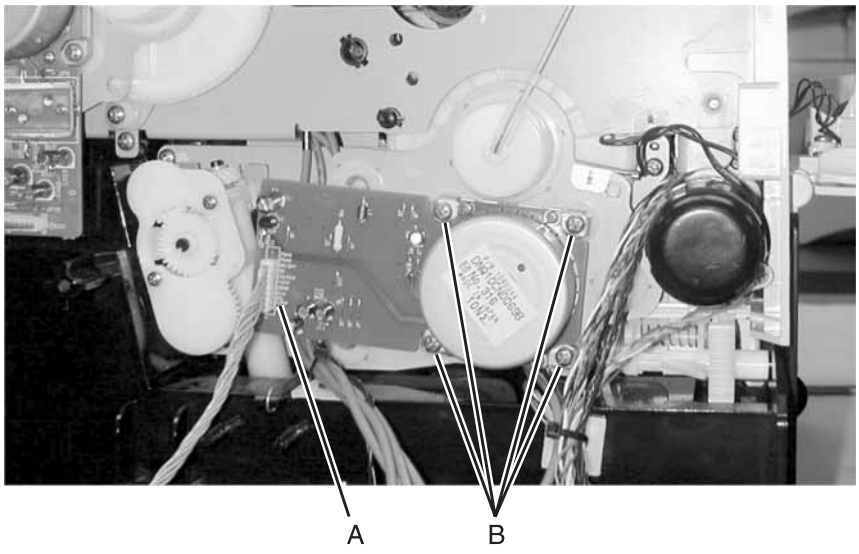


5. Move the bottom of the ITU drive assembly toward you as you rotate the top of the assembly out of the printer. Be careful not to damage the large drive gear as you remove the ITU drive assembly.

ITU drive motor

Go to **"ITU drive motor assembly" on page 7-23** for part number.

1. Remove the black cartridge drive assembly. See the removal for the **"Cartridge drive assembly" on page 4-30**.
2. Remove the ITU drive motor mounting screws (B), disconnect the cable (A), and remove the motor.

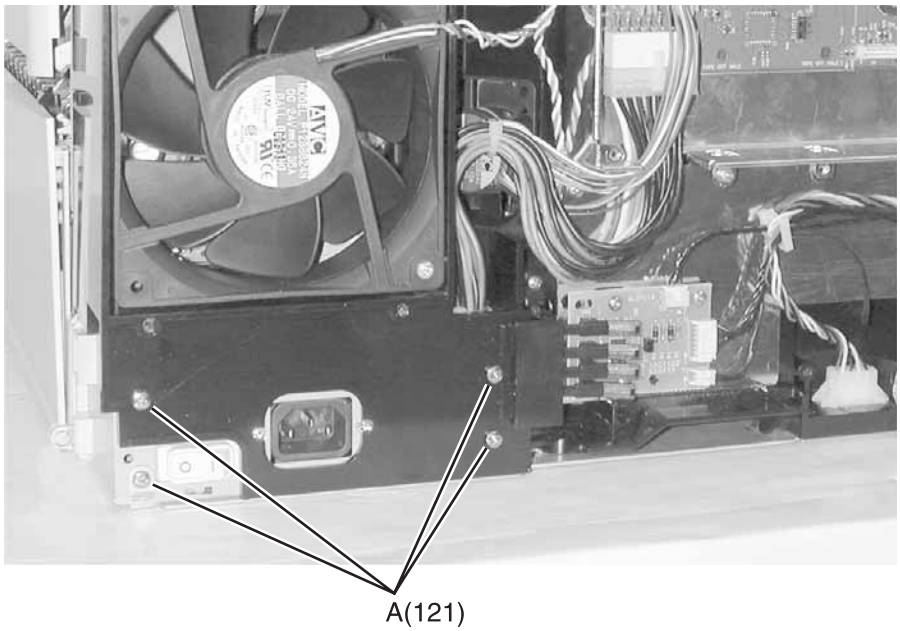


LVPS assembly

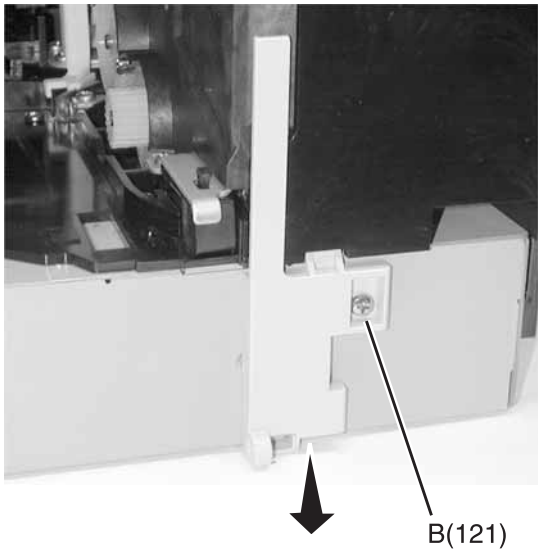
Go to **"LVPS, 115V/230V switchable" on page 7-31** for part number.

Note: Set the voltage range switch to the proper power setting for the geographic area you are in.

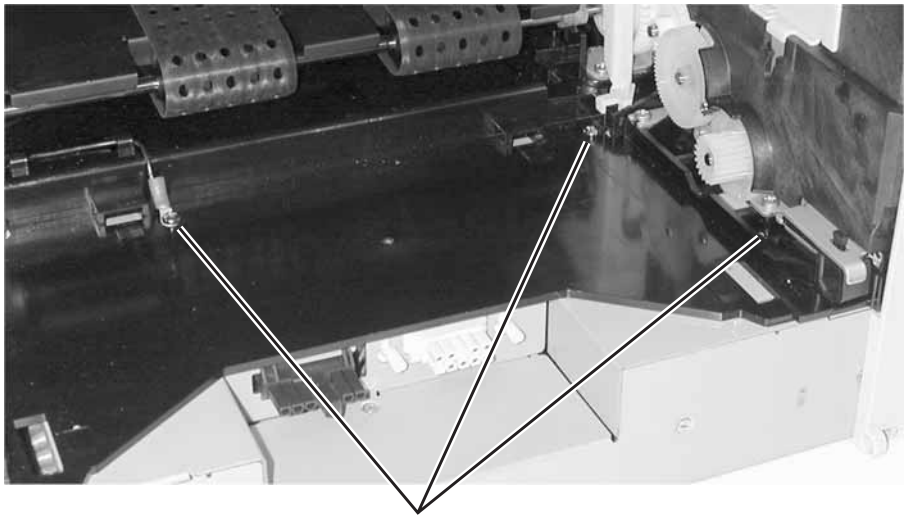
1. Remove the fuser drive assembly. See **"Fuser drive assembly" on page 4-37**.
2. Remove the rear cover. See **"Rear cover" on page 4-16**.
3. Disconnect the J33 and J35 cables from the system board.
4. Remove the four LVPS screws (A) type **"121" on page 4-2** from the rear of the printer.



5. Remove the right rear cover screw (B) type **"121" on page 4-2**.

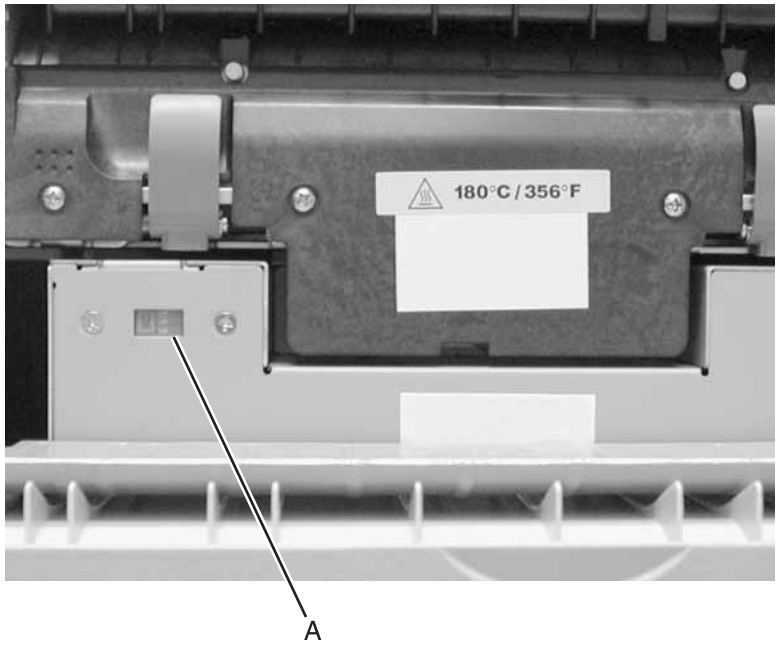


6. Remove the screw (C) type **"121" on page 4-2** from the top of the LVPS and remove the LVPS from the printer.



Installation notes

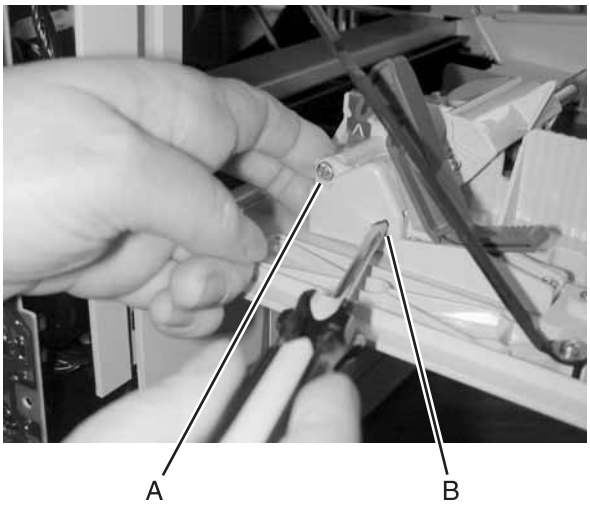
- When installing the new power supply, set the voltage range switch to the proper power setting for the geographic area you are in.
- Be sure to set the voltage range selector switch (A) on the LVPS to the proper setting.

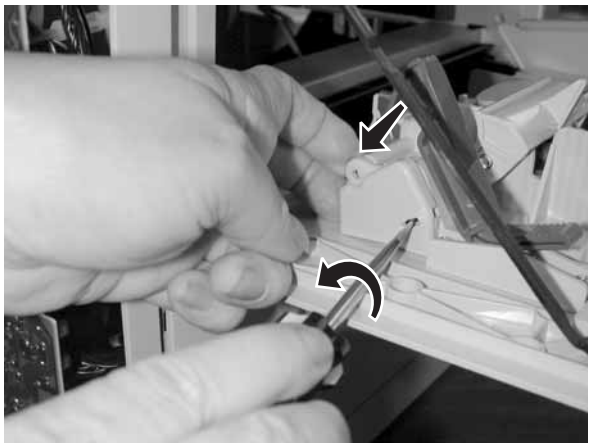


Multipurpose feeder (MPF)

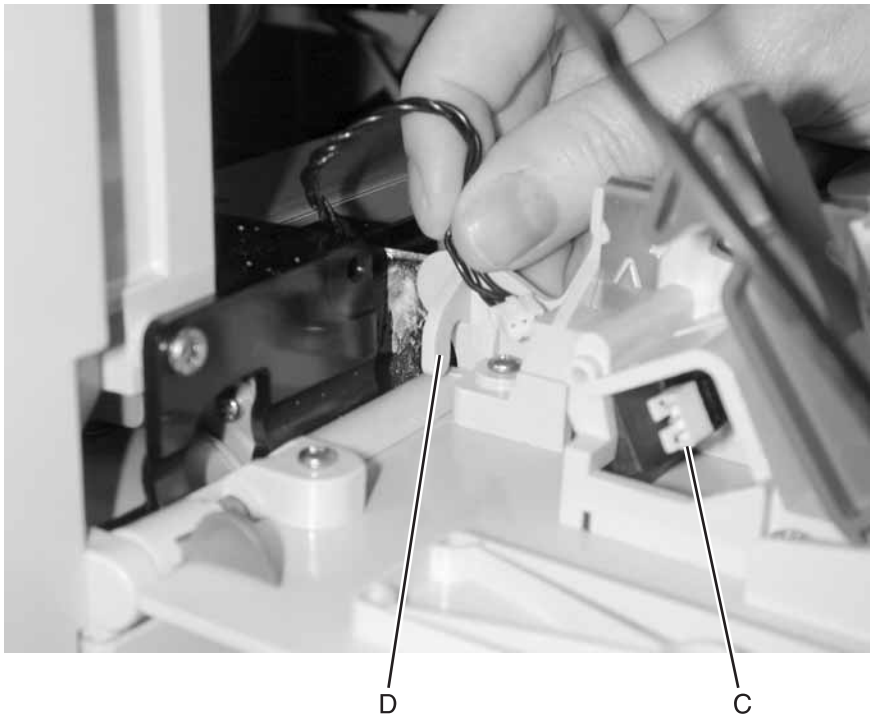
Go to **“Multipurpose feeder (MPF)” on page 7-19** for part numbers.

1. Open the MPF to the lowest position.
2. Remove the MPF cable cover screw (A).
3. Place flatblade screwdriver in the slot (B) on the MPF cable cover and gently pry open the cover.



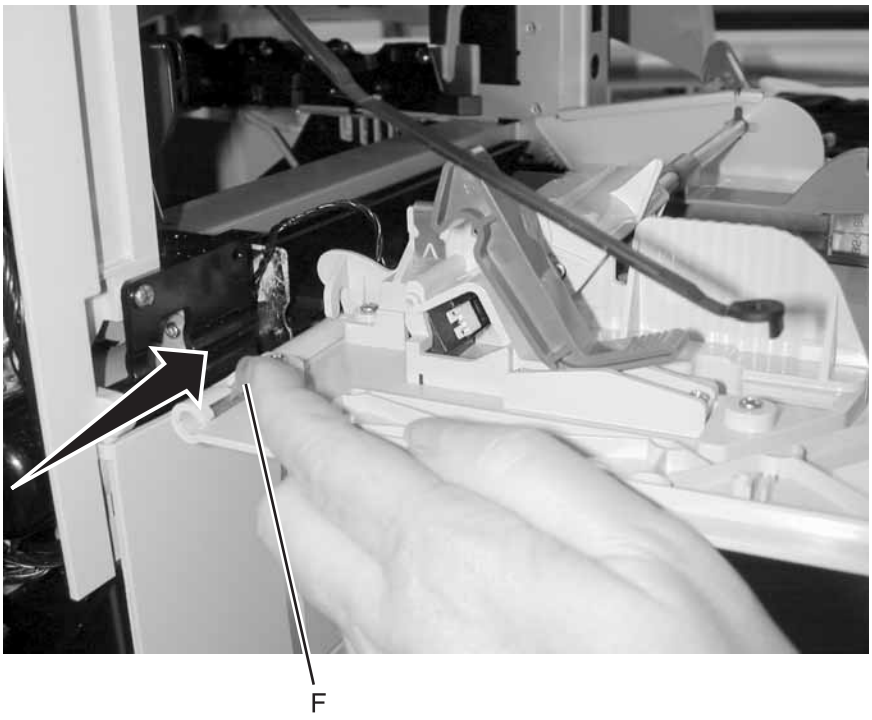


4. Disconnect the MPF switch cable from the MPF sensor (C).
5. Pull the MPF cable free of the enclosure and out from under the cable retainer (D).



6. Remove the MPF strap screw (E) type **“412” on page 4-5**.

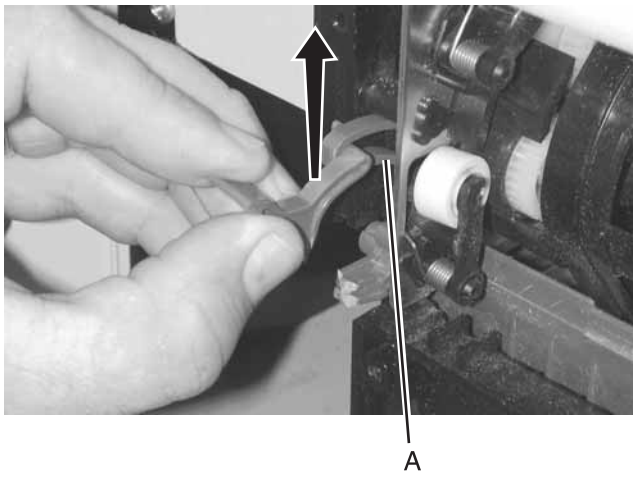
7. Release the MPF latch (F) and remove the MPF.

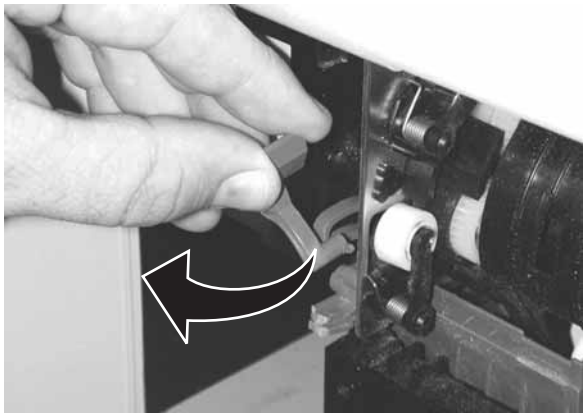


Nip relief handle

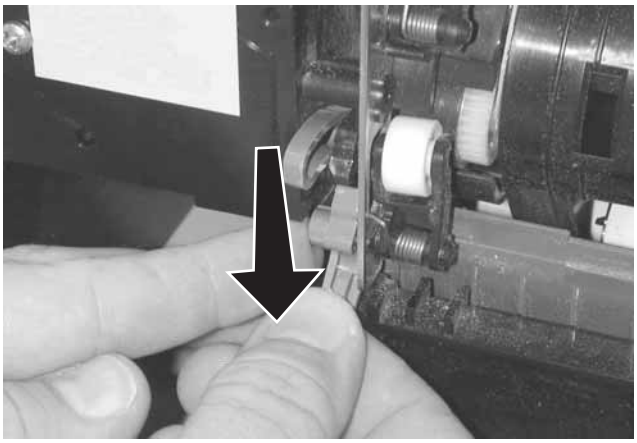
Go to **“Nip relief handle” on page 7-17** for part number.

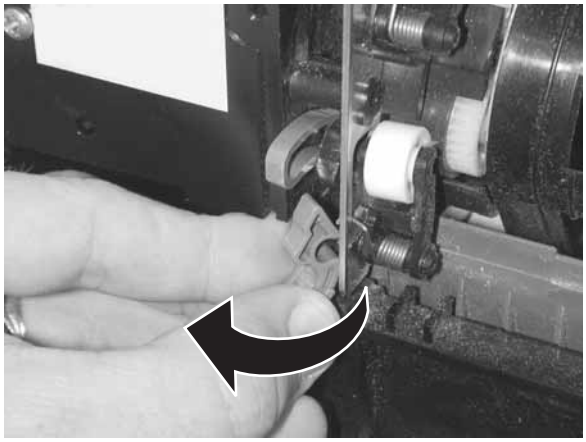
1. Remove the left lower cover to access the nip relief handle. See **“Left lower cover” on page 4-18**.
2. Remove waste toner container.
3. Reinsert paper tray into printer.
4. Remove the broken pieces of old handle.
   a. Pull up the upper piece of handle to raise the nip relief link (A) and rotate upper piece of handle 90° clockwise to free it from the nip relief link.





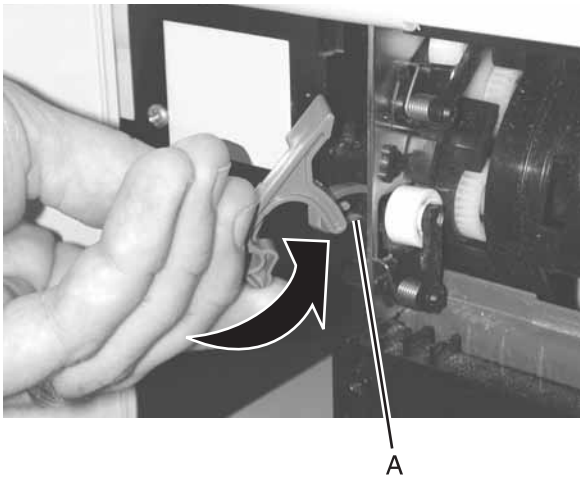
b. Pull down the lower portion of the broken handle as far as it goes. Rotate the handle to slide off the post.



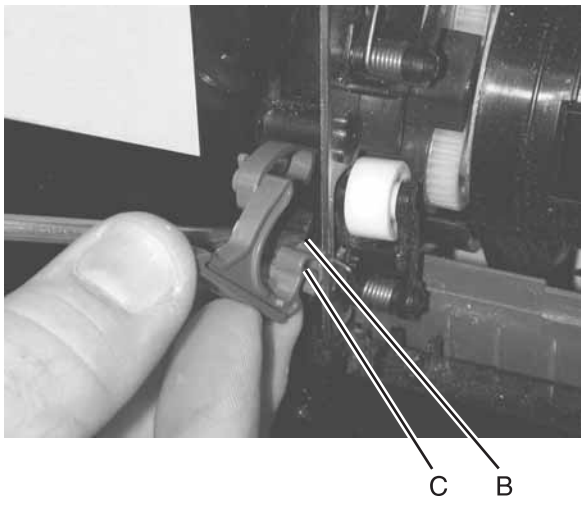


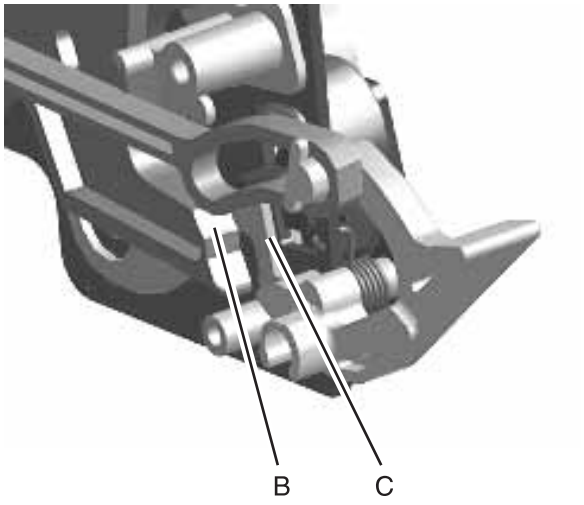
Installation notes

1. Rotate the new nip relief handle into place to connect it to the nip relief link (A).

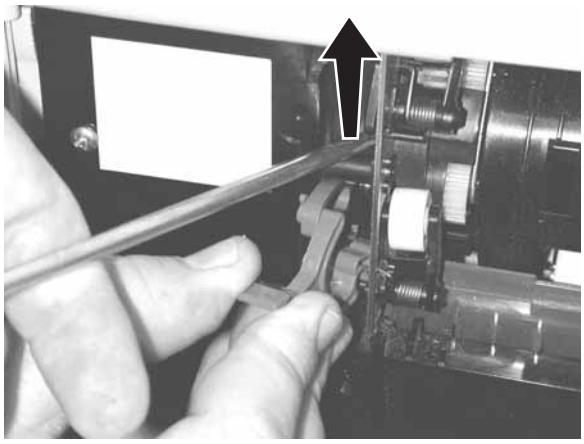


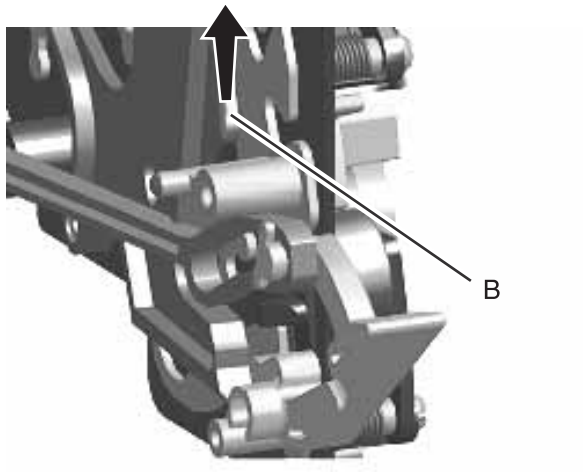
2. Using a screwdriver, gently pry the nip relief lever (B) toward the rear of the machine and insert lower portion of the handle so that it is between the nip relief lever and the reference edge plate (C).



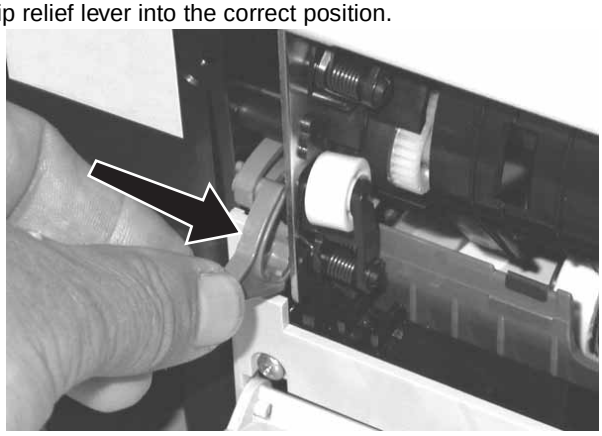


3. Holding the handle in place, use a flathead screwdriver to gently pry up on the top portion of the nip relief lever allowing the handle to *snap* into place onto the post using moderate force.





4. Once the handle *snaps* onto the post, press the upper portion of the handle to the right and rotate the handle into its home position.
   This seats the nip relief lever into the correct position.



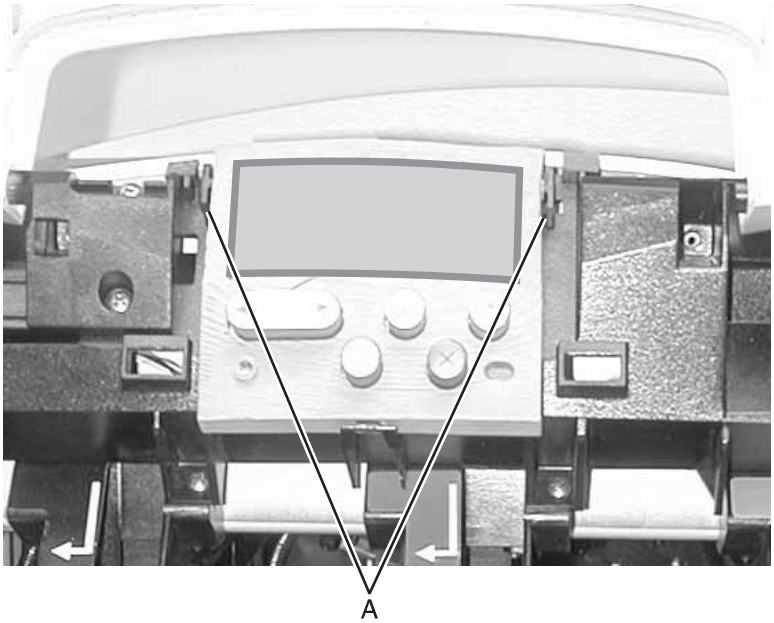
5. Check for proper operation
6. Install the waste toner container.
7. Replace the covers.

Operator panel

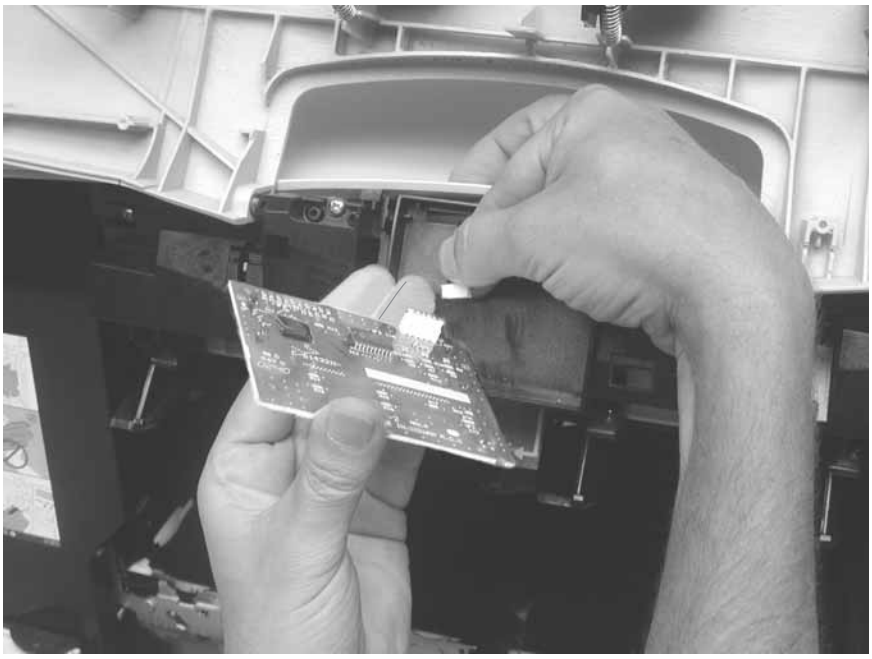
Go to **“Operator panel assembly” on page 7-3** for the part number.

1. Open the front cover assembly.
2. Unsnap the bottom of the operator panel bezel and remove.

3. Unlatch the operator panel latches (A).



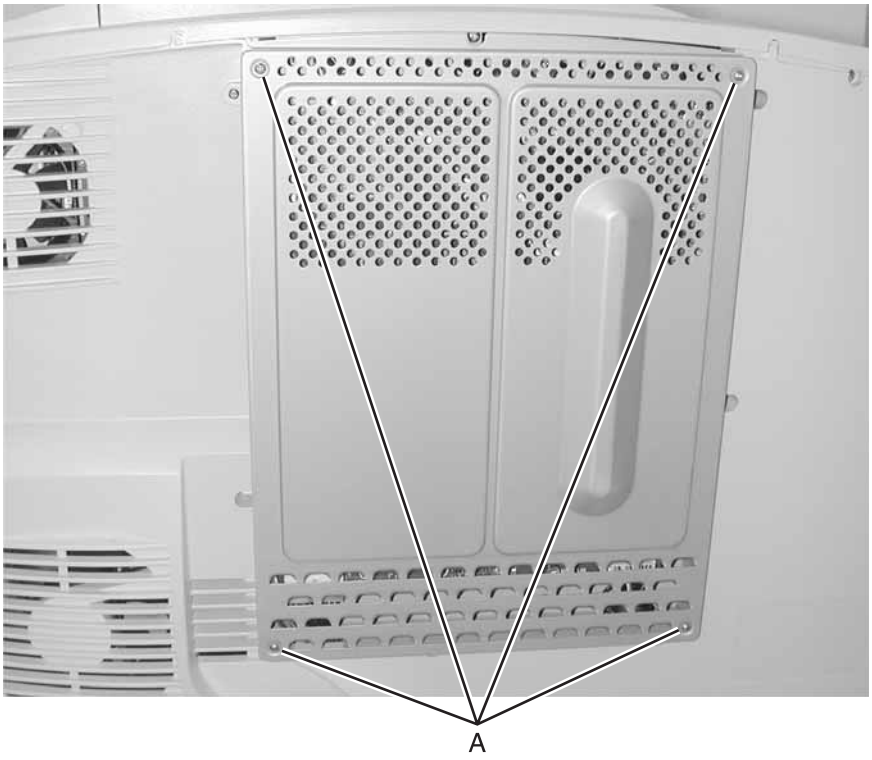
4. Disconnect the operator panel cable from the operator panel and remove the panel.



Outer system board shield

Go to **“System board outer shield” on page 7-33** for part number.

1. Remove four screws (A).

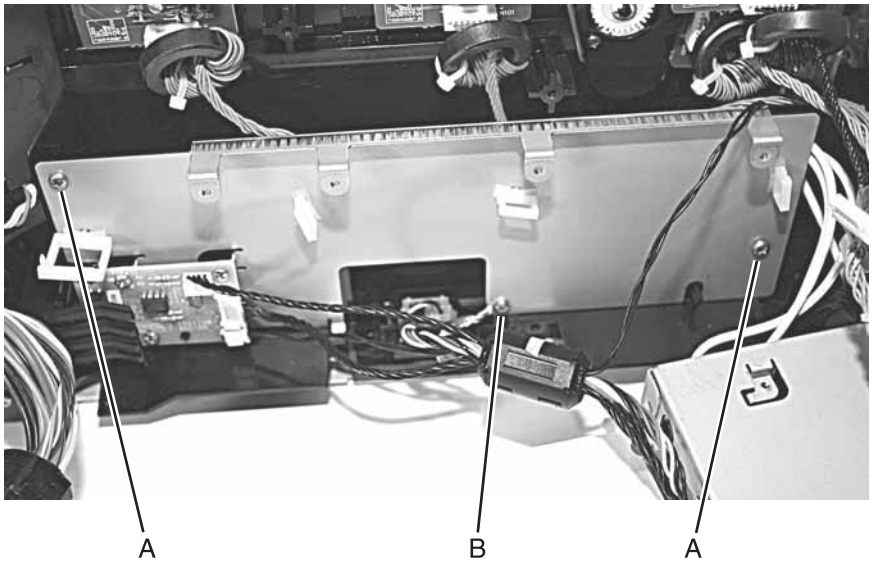


2. Remove outer system board shield.

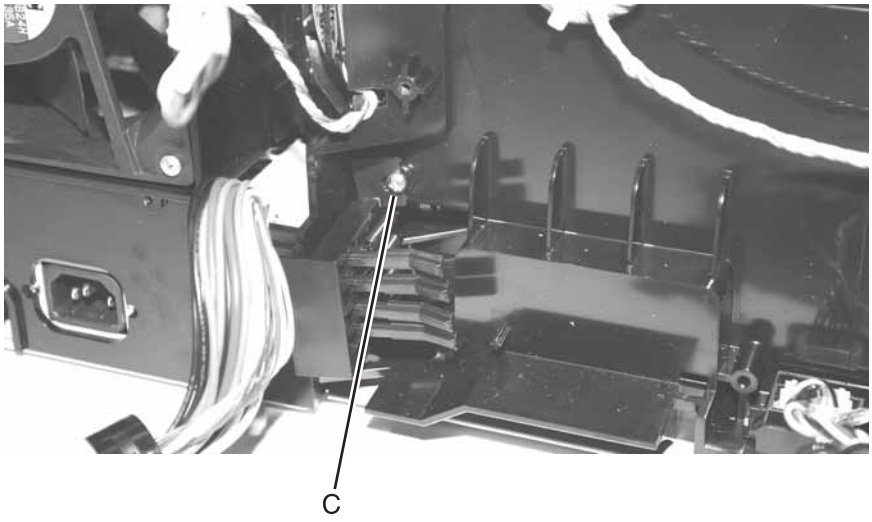
Paper size sensing assembly

Go to **"Paper size sensing" on page 7-16** for part numbers associated with this assembly.

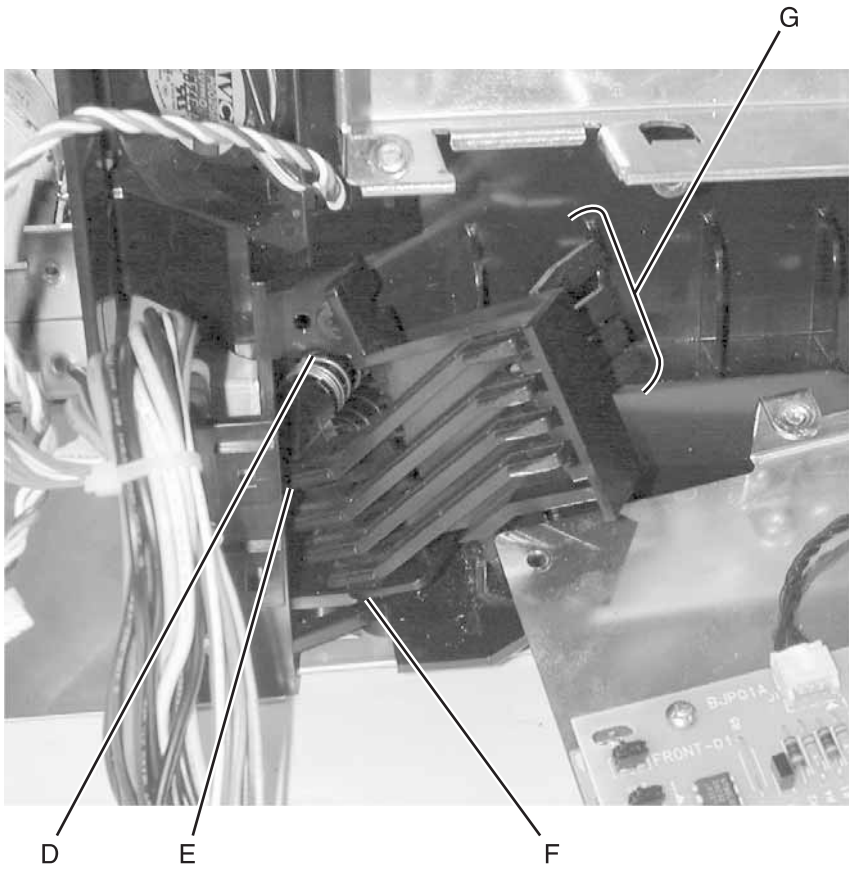
1. Enter Diagnostics mode. Power up the printer in Diagnostics mode (holding **Go** and **Return** until `Performing Self Test` appears.).
2. Print the Quick Test Page, if possible. Retain this sheet to verify the installation.
   a. Select **REGISTRATION**.
   b. Press **Go** to print the page.
3. Turn the printer off.
4. Remove the inner system board shield. See **"Inner system board shield" on page 4-43**.
5. Open the waste toner container door and slide the container out.
6. Remove the two screws (A) on the lower shield and remove the ground wire screw (B).



7. Remove screw (C) from the paper size sensing assembly.

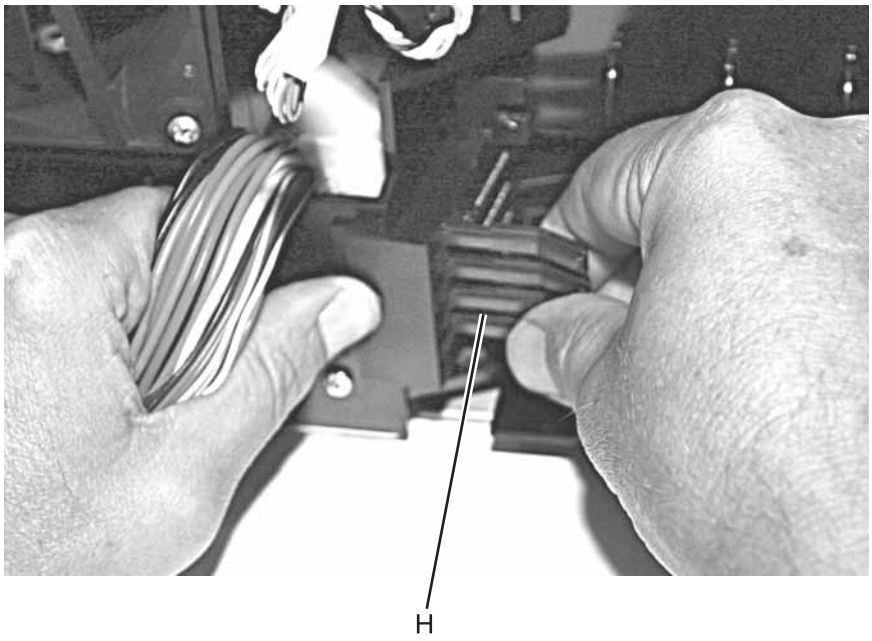


8. Gently twist and remove the paper size sensing assembly. As shown, the assembly touches at the spring (D), the fingers (E), the bottom (F), and the right side (G). This also occurs when replacing the assembly.

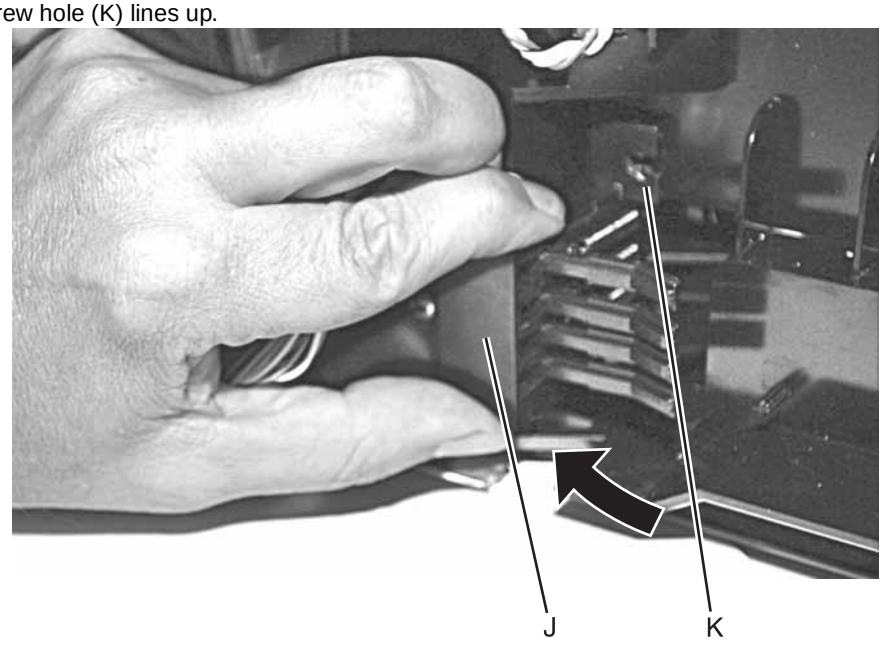


Replacing the paper size sensing assembly

1. Press on the back of the paper size sensing assembly fingers (H).



2. Move the assembly down to the bottom of the aligning hole. Be careful with the exposed fingers. Do not allow them to press against the black plastic frame.
3. Gently wiggle the entire assembly and press in and around the corner to the right.
4. Grasp the rectangular piece (J) of the paper size sensing assembly and move up and to the left until the screw hole (K) lines up.



5. Reinstall the ground screw, inner system board shield, waste toner container, outer system board shield, and the covers.

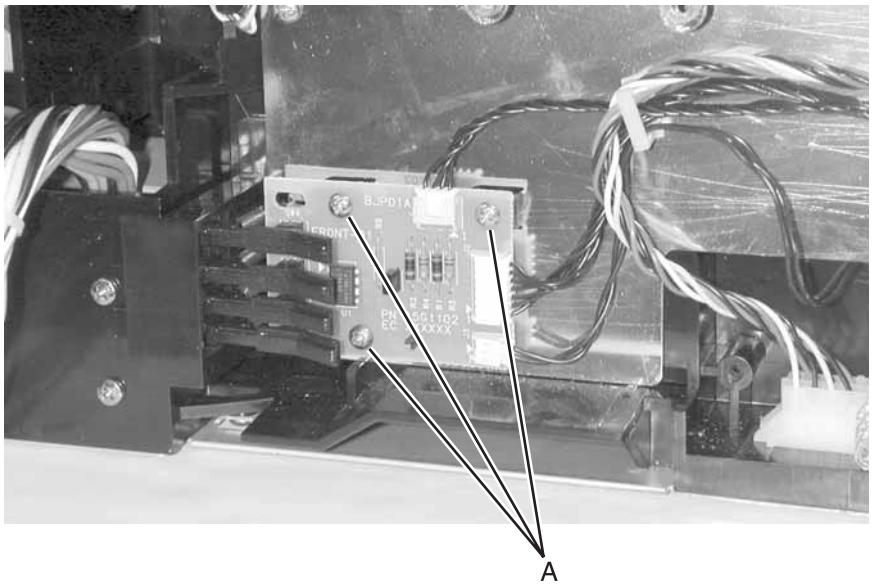
Paper size sensing board

Warning: Whenever the paper size sensing board is removed, customer settings in the NVRAM may be lost. The Motor Detect test must be performed if the NVRAM contents are lost during the replacement of a paper size sensing board. See **"Motor Detect" on page 3-17**.

Go to **"Paper size sensing" on page 7-16** for part number.

1. Print the Quality Test Pages. See **"Prt Quality Pgs" on page 3-9**.
   Save the margin settings so they can be reentered after replacing the board.
2. Remove the rear cover. See **"Rear cover" on page 4-16**.
3. Disconnect the cables.

4. Remove the paper size sensing board screws (A).



5. Remove the board.

Replace the new board

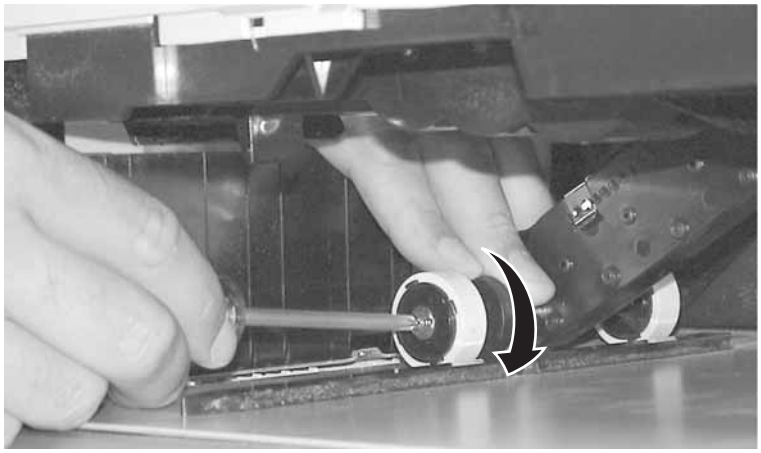
1. Power up the printer in Diagnostics mode (holding **Go** and **Return** until `Performing Self Test` appears.)
2. Verify the model name to make sure the correct paper size sensing board is installed.
   a. Select **PRINTER SETUP** from the Diagnostics mode.
   b. Select **Model Name**.
      The model name should match the model name on the Quick Test Page or on the printer logo. If it does not, you have the wrong paper size sensing board.
   c. Press **Select** to save the Model Name.
3. Verify or change the serial number to the number on the Quick Test Page or on the printer.
   a. Select **Serial Number** from PRINTER SETUP in the Diagnostics mode.
   b. The leftmost digit *blinks*, indicating it is the first digit to be changed. To change the value, press **Menu** until the desired value is displayed. Press **Select** to move to the next digit. The digit *blinks*. Continue modifying each digit using this method. To skip a digit, and keep its current value, press **Select**.
4. Perform the Motor Detect test.
   a. Remove all the print cartridges from the printer and close the cover.
   b. Select **Motor Detect** from MISC TESTS.
   c. Press **Go**.
      `Motor Detection in Progress` is displayed.
      The test lasts approximately ten seconds. No buttons are active during detection and the test completes automatically.
5. Turn off the printer.
6. Replace the print cartridges.
7. Power up the printer in Diagnostics mode (holding **Go** and **Return** until `Performing Self Test` appears.)
8. Set the Configuration ID. See **“Configuration ID” on page 3-33**. The printer will POR.
9. Turn the printer off and power up the printer in Diagnostics mode (holding **Go** and **Return** until `Performing Self Test appears`.)
10. Set the registration. See **“REGISTRATION” on page 3-14**. Refer to settings on the Quick Test Page you printed at the beginning of this removal.
11. Set the alignment. See **“ALIGNMENT MENU” on page 3-15**. Refer to settings on the Quick Test Page.

Pick rolls

Go to **“Pick roll tires” on page 7-53** for part number.

Front roll

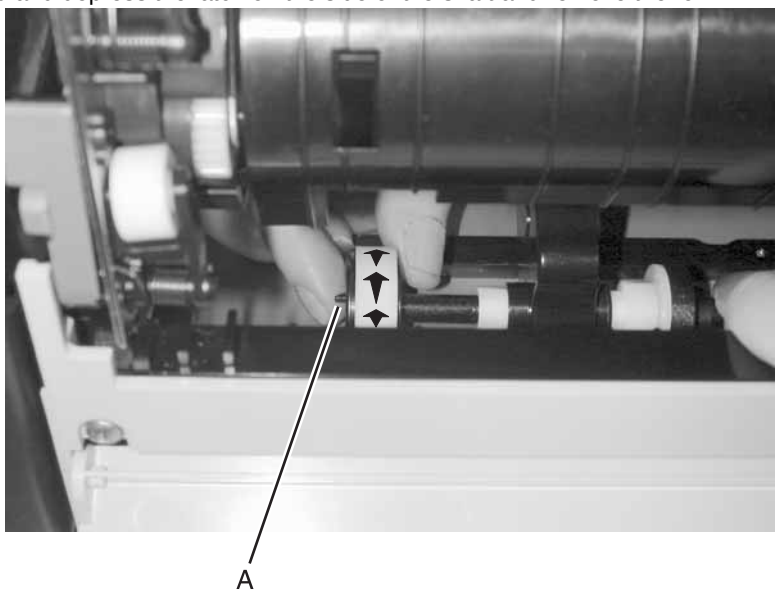
1. Wipe any toner or debris from the bottom pan to avoid contaminating the pick rolls.
2. Pull the pick assembly down into the bottom pan and remove the screw.



Note: Do not attempt to remove either the shaft or the clutch races.

Rear roll

Reach around and depress the latch on the side of the shaft and remove the roll.



Installation notes:

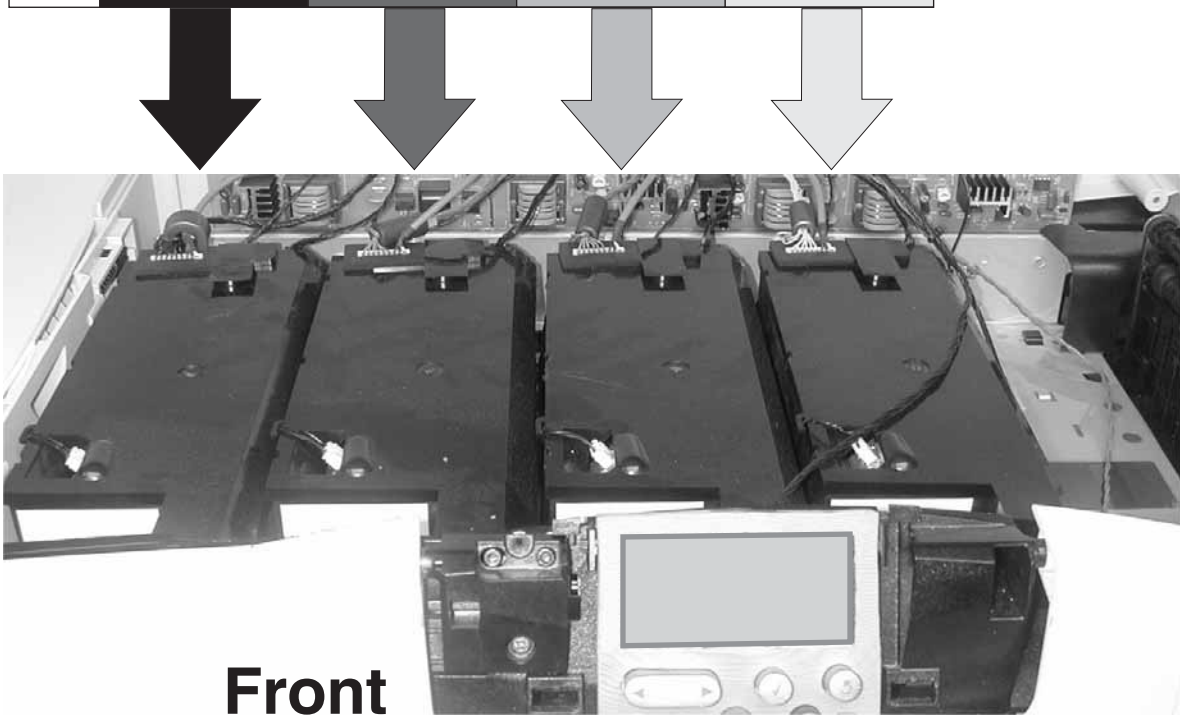
- Replace both rolls at the same time.
- When you replace the front roll, make sure the roll is pressed against the shaft and the screw is fastened all the way down.
- When replacing both the front and back rolls, note the directional markings on the roll and make sure the rolls turn clockwise when viewed from the front. Check out the directional arrows in the pictures. Verify the rolls turn freely.

Printhead removal and adjustments

Identifying the printheads

A color version of this sheet is available in the appendix. See**"Identifying the printheads" on page A-4**.

	Black (K)	Magenta (M)	Cyan (C)	Yellow (Y)
Printhead error codes	109	107	106	108
	114	116	115	117
	169	173	171	175
	170	174	172	176



Warning: Do not loosen or remove all printheads at the same time. If all printheads are loosened or removed, your reference to readjust will be lost.

Notes:

- Whenever a printhead is removed, it is necessary to perform the **"Printhead mechanical alignment" on page 4-61** and **"Printhead electronic alignment" on page 4-63**.
- The front cover must be installed and closed before any printhead alignment can be performed. It is not necessary to remove the cover to access the printheads.
- If there is a protective lens cover on the new printhead, it must be removed before installing the replacement printhead.

Printhead mechanical alignment

Warning: Do not loosen or remove all printheads at the same time. If all printheads are loosened or removed, your reference to readjust will be lost.

1. Install two printhead alignment assemblies, one in the front and another in the rear (see Figure 2 and Figure 3), by aligning the locating pin on the printhead alignment bracket (see Figure 1) with the hole in the printer frame.
2. Attach the printhead alignment tool with the provided screw.

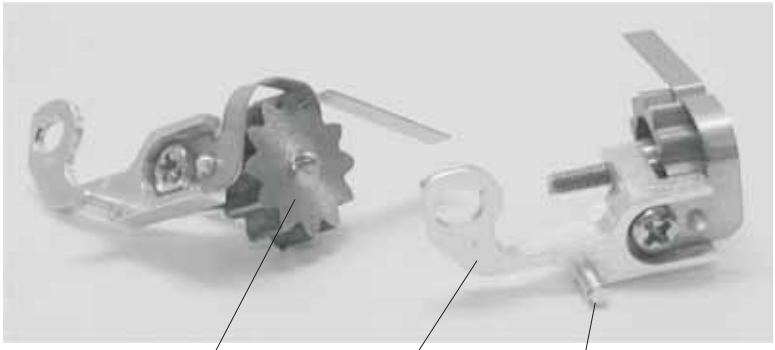
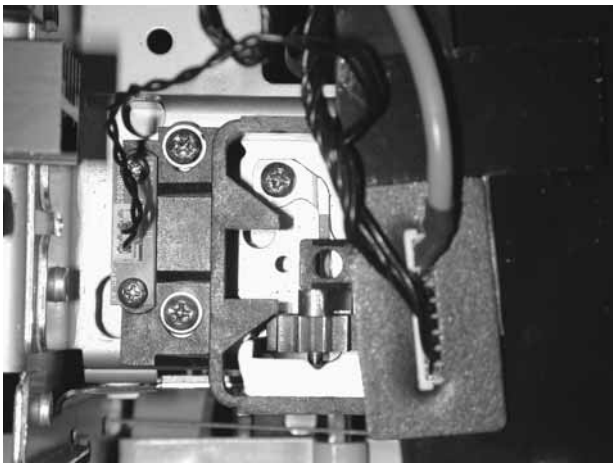


Figure 1



Rear Figure 2

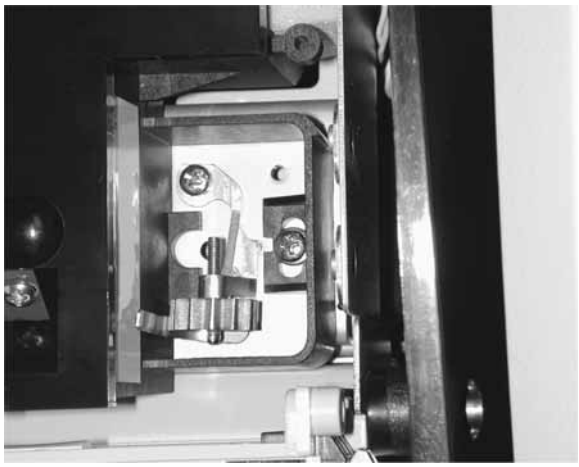
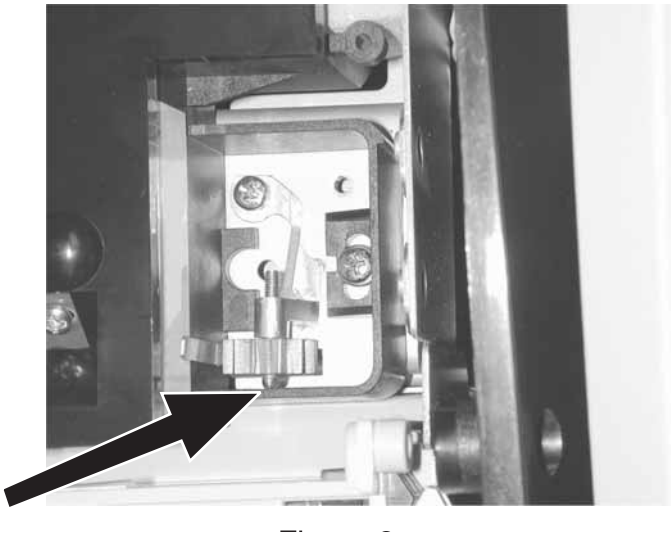


Figure 3 Front

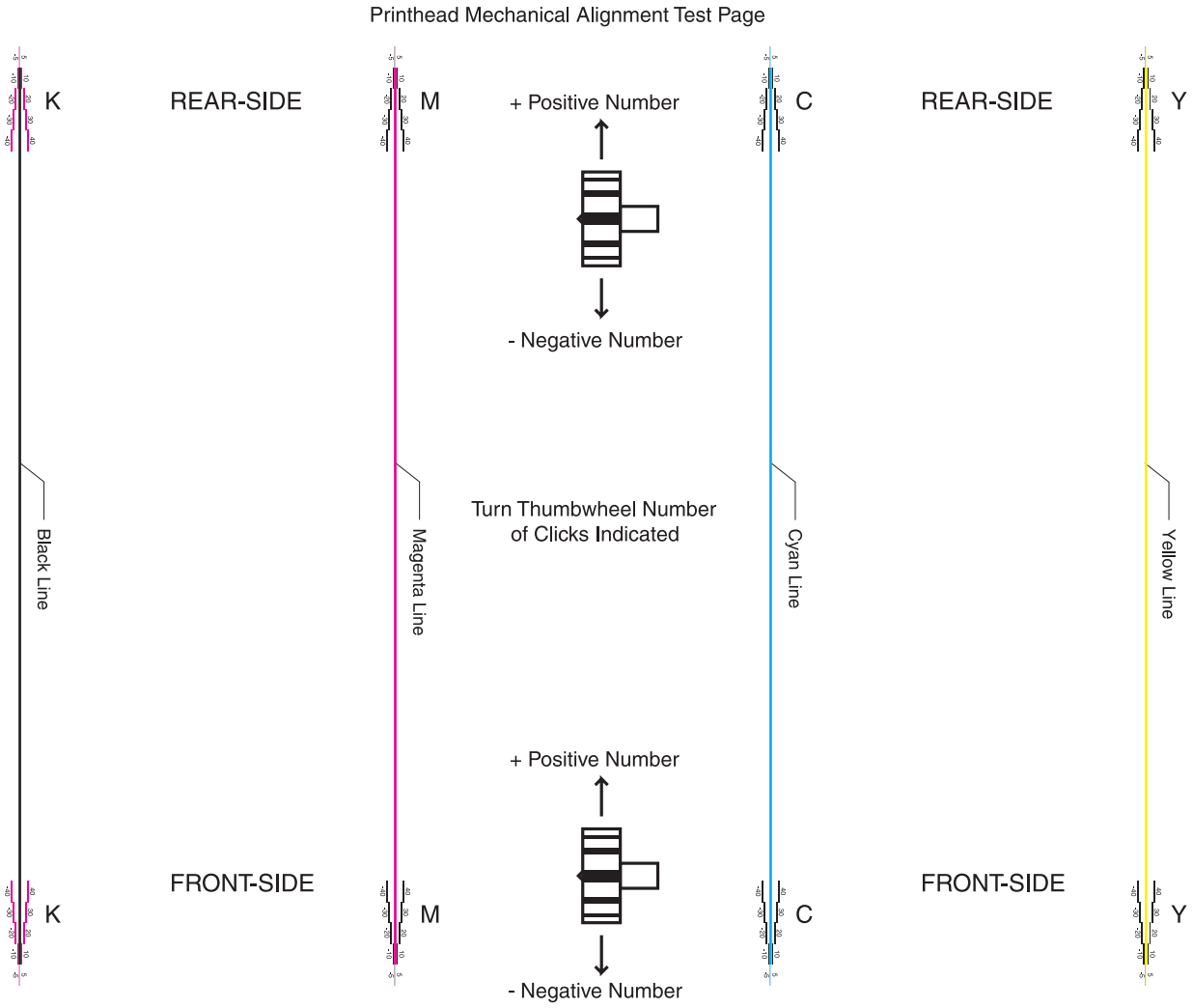
3. Turn the thumbwheel (see Figure 1) until the end of the thumbwheel just touches the printhead mounting beam for both the front and rear alignment assemblies.



4. Remove the old printhead and install a new printhead assembly. Do not tighten the printhead screws yet.
   Note: Make sure the right rear screw goes through the printhead spacer located at the right rear of the printer frame.

5. Bias the new printhead assembly against the front and rear stops.
6. Tighten the right rear printhead mounting screw. Then, tighten the front screw followed by the left rear screw. Make sure the printhead is biased against the thumbwheels when tightening the screws.
7. Securely close the front cover or reattach if previously removed.
8. Turn the printer on and enter the Diagnostics mode.
9. If replacing the black printhead go to step 10. Otherwise, select **Alignment**, select color of the printhead that was replaced, and set the Z value to zero. Exit **Alignment** menu.
10. Select **Miscellaneous Test** and **Printhead Inst Alignment**.

11. Print the Printhead Mechanical Alignment Test page to determine the printhead alignment.



Note: To see a printhead mechanical alignment test in color page, see **"Printhead mechanical alignment test page" on page B-9**.

12. Loosen the printhead screws before making any adjustments to the thumbwheel.

13. Turn each thumbwheel the appropriate number of *clicks* as indicated by the test page. For example, if the test page indicates a +10 as the misalignment, turn the thumbwheel 10 *clicks* in the positive direction indicated on the test page. Do this for both the front and rear printhead.

14. Bias the printhead up against both thumbwheels, and hold in place when tightening printhead mounting screws.

15. Tighten the right rear printhead mounting screw. Then tighten the front screw followed by the left rear screw. Make sure the printhead is biased against the thumbwheels when tightening the screws.

16. Print another Printhead Mechanical Alignment Test Page to verify printhead alignment.

17. If the printhead alignment is within ±5 for both front and rear positions, then proceed to electronic alignment procedure. If not, repeat steps 12 through 16, until alignment is within ±5.

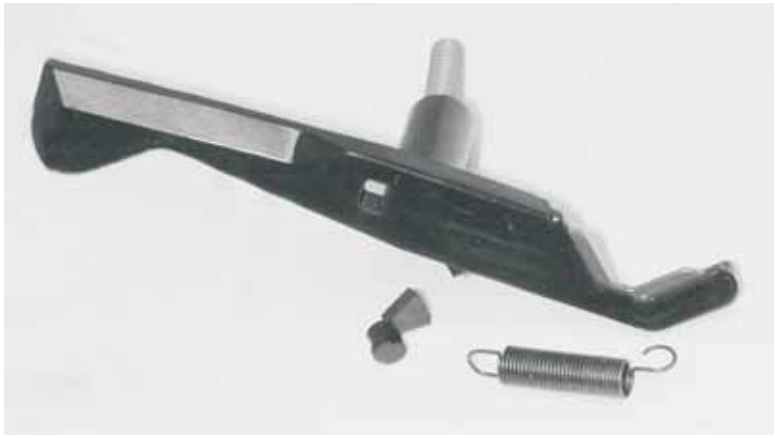
Note: When replacing the black printhead there is no Z value to reset. After the black printhead is mechanically aligned to the magenta printhead, it is necessary to electronically align the three color printheads to the new black printhead.

Printhead electronic alignment

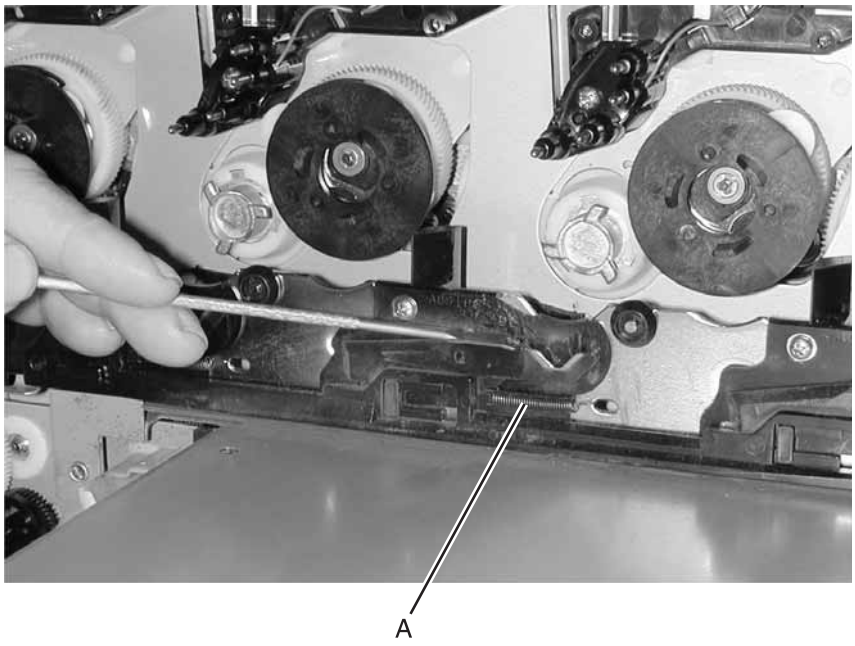
After completing all mechanical adjustments return to **Alignment Menu**. See **"ALIGNMENT MENU" on page 3-15** to electronically align the cyan, magenta, or yellow printheads to black.

Rear bellcrank (cyan, magenta, yellow)

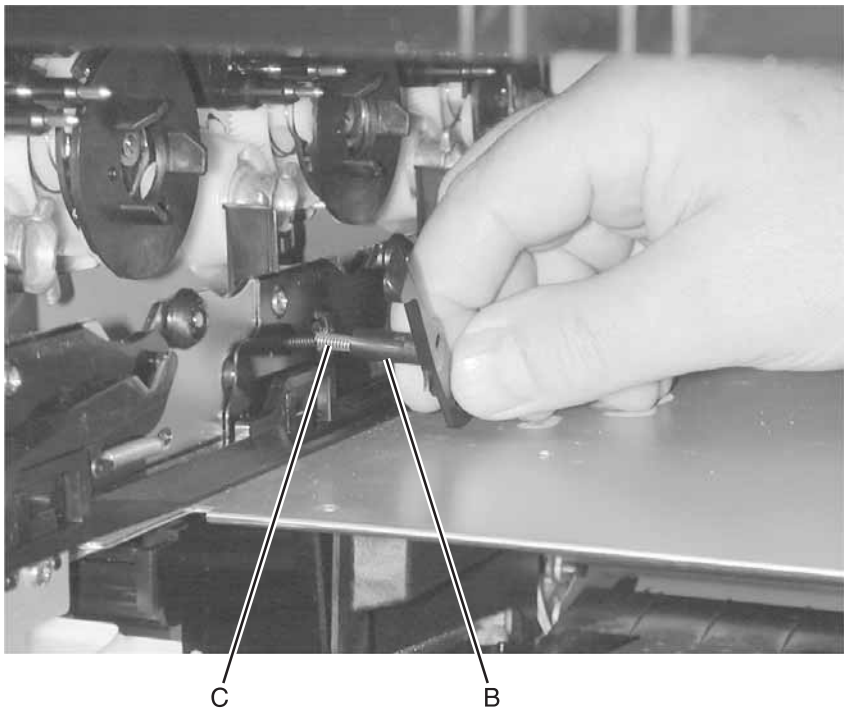
1. Power off the printer.
2. Remove the four toner cartridges and leave the front door open.
3. Remove the ITU assembly. See **“ITU assembly” on page 4-44**.
4. Check each of the rear bellcranks for cracks or breakage.



5. Remove the spring (A).



6. Rotate the contact end of the bellcrank down (B) and remove. Be careful not to lose the contact spring (C).



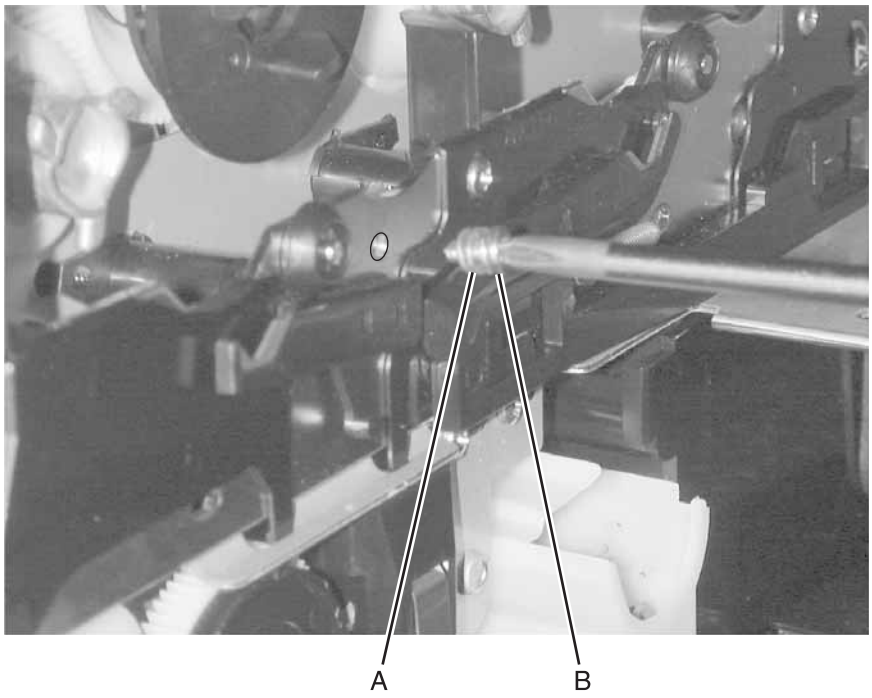
Installation note

Replace the bellcranks by reversing the order of removal.

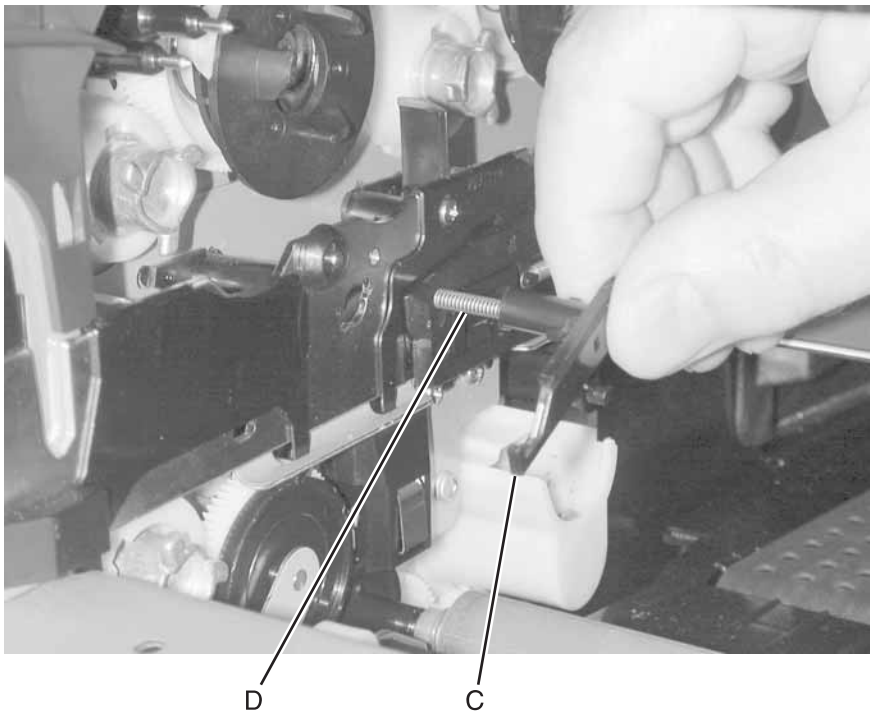
Note: Test the color coverage by running the Print Quality Pages in the Diagnostics or Configuration Menu.

Rear bellcrank (black)

1. Power off the printer.
2. Remove the four toner cartridges and leave the front door open.
3. Remove the ITU assembly. See **“ITU assembly” on page 4-44**.
4. Check each of the rear bellcranks for cracks or breakage.
5. Remove the spring.
6. Remove the stop screw (A) and two washers (B). Be careful not to lose the washers. Recommend using a magnetic tipped screwdriver to remove the screw.



7. Rotate the contact end of the bellcrank down (C) and remove. Be careful not to lose the spring (D).



Installation note

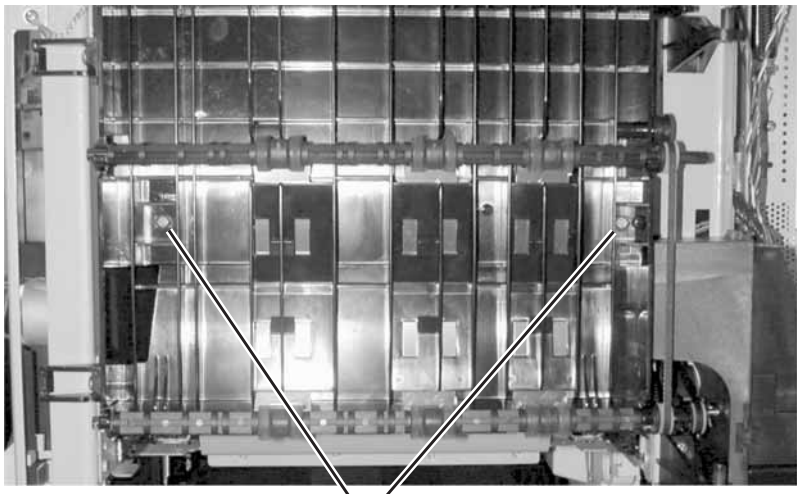
Replace the bellcranks by using reverse order of removal.

Note: Test the color coverage by running the Print Quality Pages in the Diagnostics or Configuration Menu.

Redrive assembly

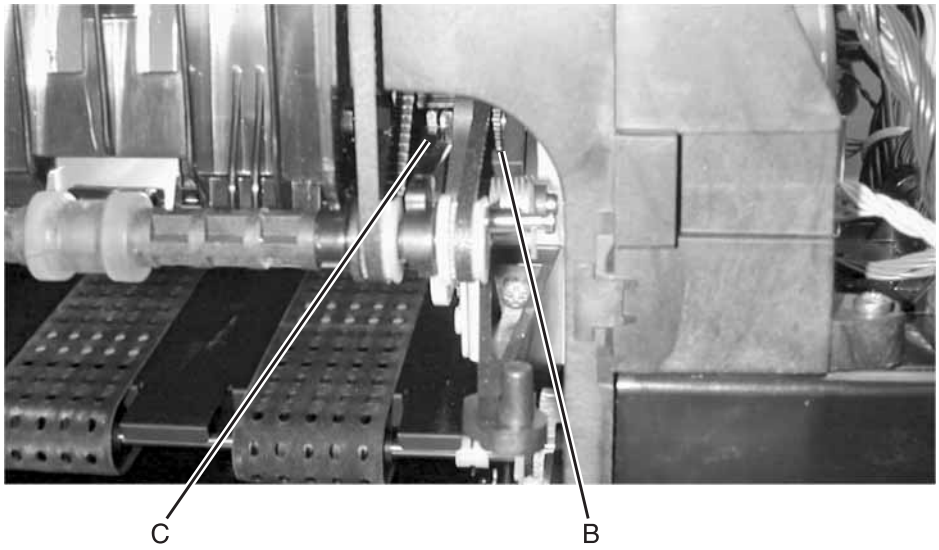
Go to **“Redrive assembly” on page 7-14** for part number.

1. Remove the redrive door. See **“Redrive door” on page 4-19**.
2. Remove the fuser bottom duct. See **“Fuser bottom duct” on page 4-36**.
3. Remove the redrive assembly screw (A) type **“323” on page 4-3**.



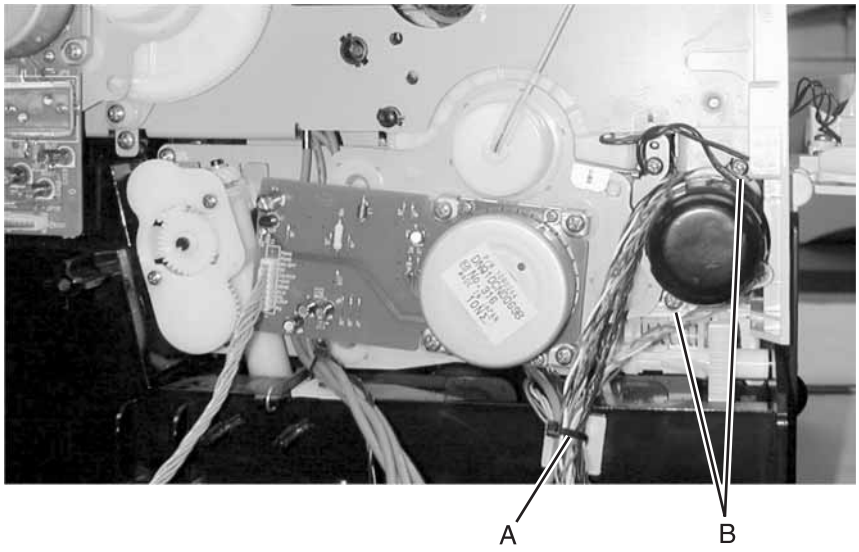
4. Remove the drive belt (B) from the lower redrive pulley.
5. Remove the redrive assembly.

Note: When you reinstall the redrive assembly be sure to align the notch in the redrive assembly with tab (C).



Registration motor

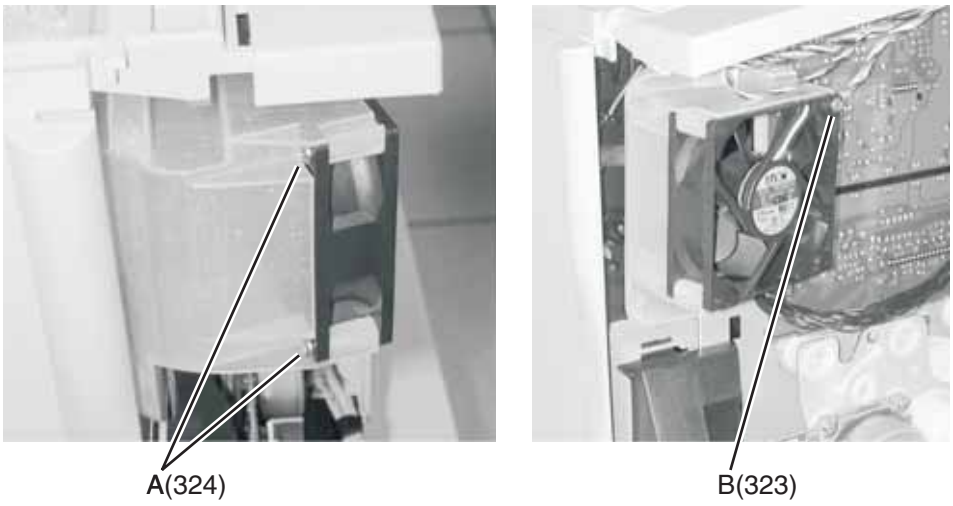
1. Remove the system board shield.
2. Remove the registration motor mounting screws (B), cut the cable tie (A), and remove the assembly.



RIP fan

Go to **“RIP fan, 92 mm” on page 7-35** for part number.

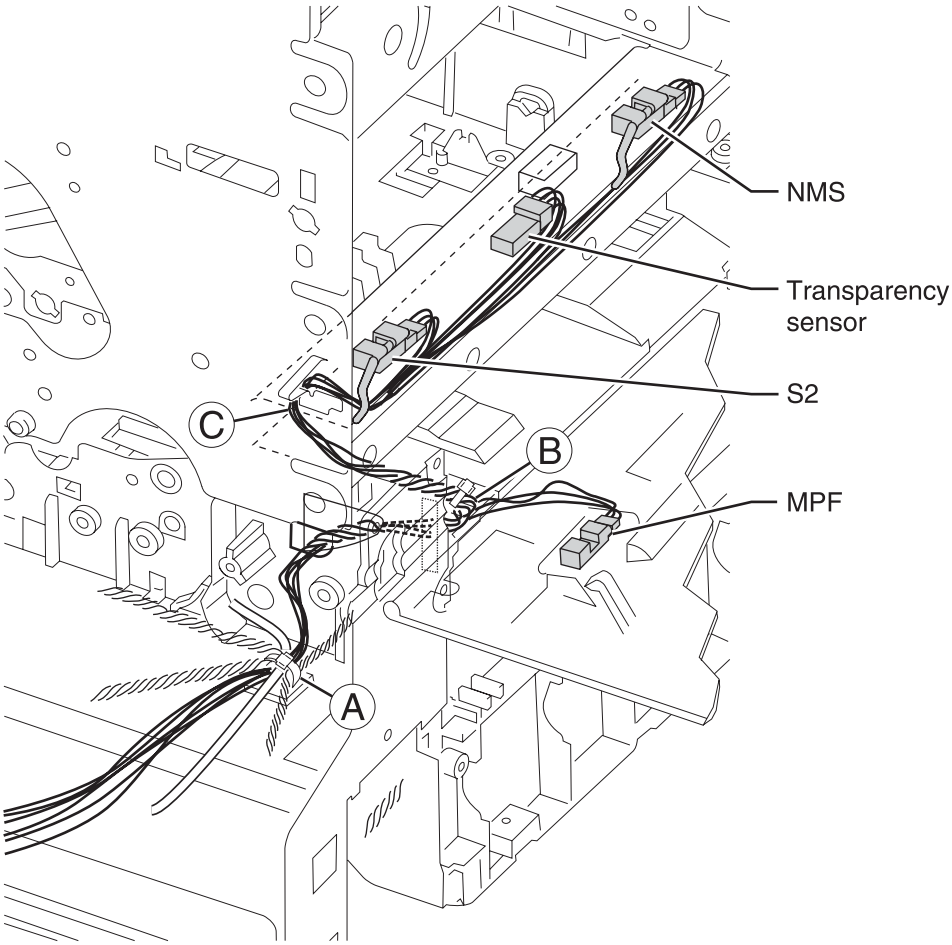
1. Remove the rear cover. See **“Rear cover” on page 4-16**.
2. Remove the two rip fan rear screws (A).
3. Remove the front rip fan screw (B)
4. Disconnect the rip fan cable from the system board at connector J3.
5. Remove the rip fan.



S2/narrow media/transparency/multipurpose feeder cable

1. Remove the J21 connector cable to allow space. Note the route it shares with the sensor cable assembly through the frame.
2. Route the new cable connector through the rectangular opening in the upper frame and out through the opening in the lower frame.

Note: Guiding the cable through the small opening requires patience. Use the following diagram as a guide.

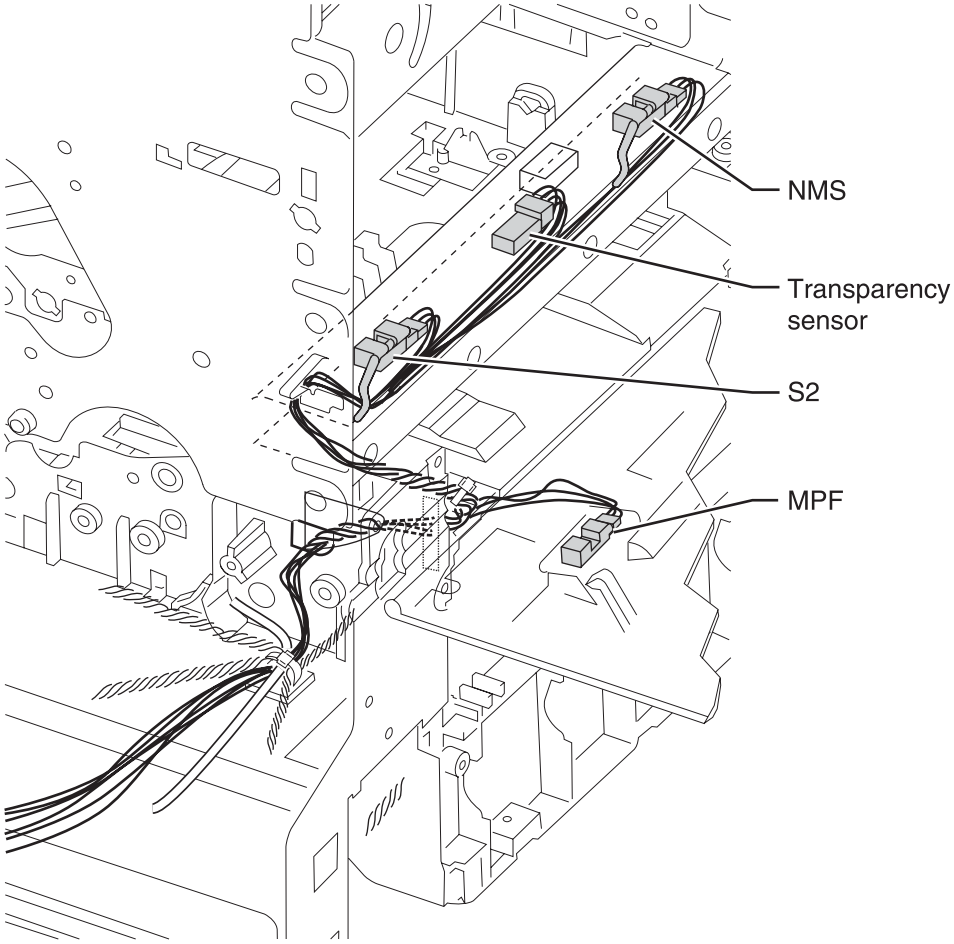


Installation notes

- When replacing the cable tie (A), make sure the tape on the cable protects the cable at the opening in the frame (B) and is not pinched or obstructs the MPF door.
- Make sure the cable at point C is clear of sharp edges.

S2/narrow media/transparency/multipurpose feeder sensors

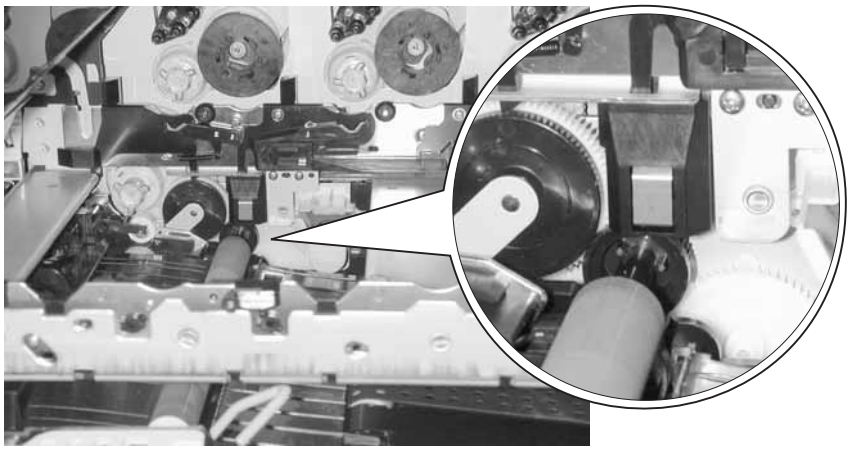
Replace only the necessary sensors.



Second transfer roll

Go to **“Second transfer roll” on page 7-12** for part number.

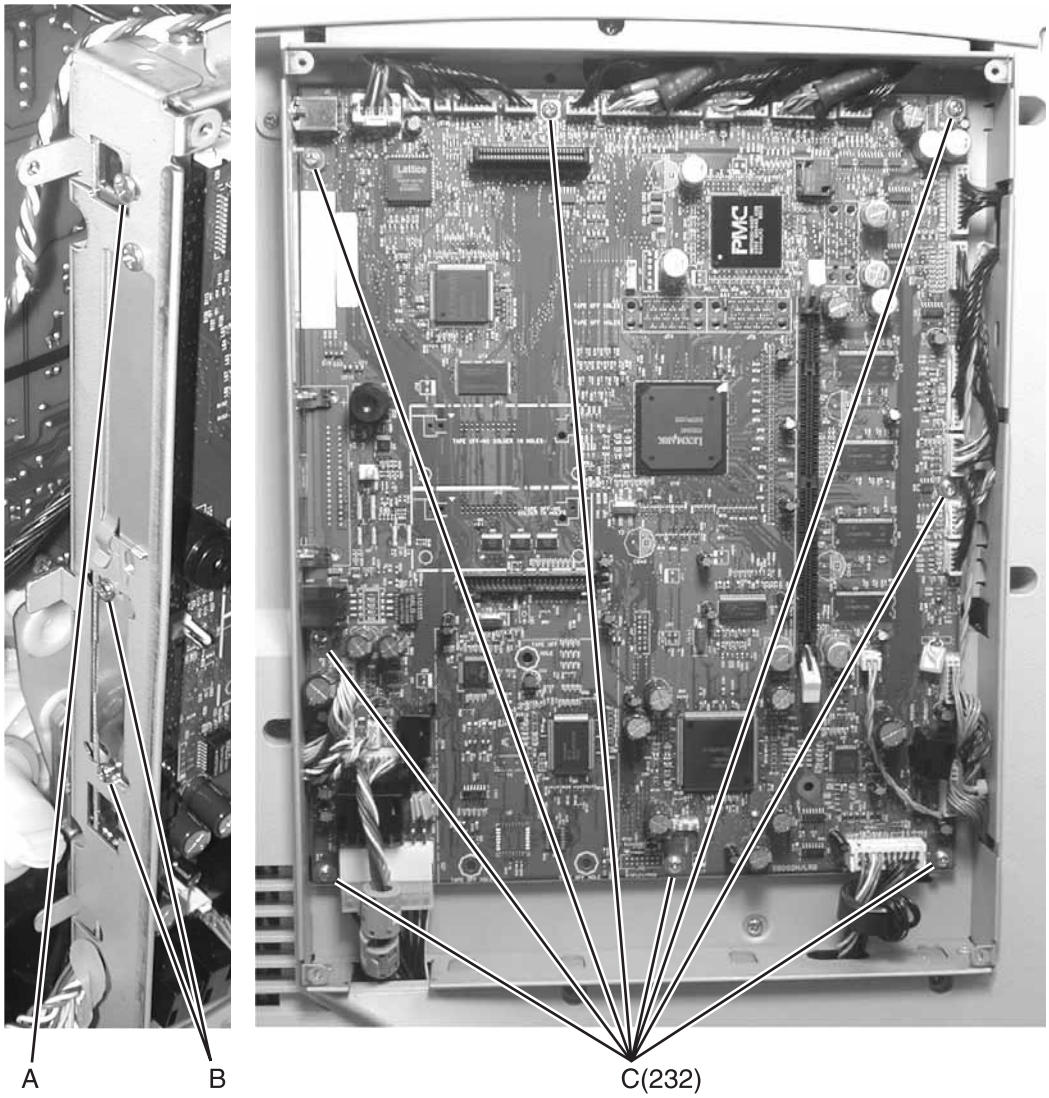
1. Remove the ITU assembly. See **“ITU assembly” on page 4-44**.
2. Lift the transfer roll from the front bearing and remove the transfer roll.



System board

Go to **"System board, non-network, 401/421 only"** or **"System board, network, 402/422 only" on page 7-33**.

1. Remove the outer system board shield. See **"Outer system board shield" on page 4-54**.
2. Disconnect all the cables from the system board.
3. Remove the USB screw (A) and parallel port cover (B), if applicable.
4. Remove the eight screws (C) type **"232" on page 4-3** from the system board.



5. Remove the system board.

Note: When reinstalling the system board, verify the input and output option cables are fully connected.

To verify the input sources are recognized:

1. On the operator panel, at the Ready prompt, select **Paper Menu**.
2. Select **Paper Source**.
3. Make sure all installed options are listed.

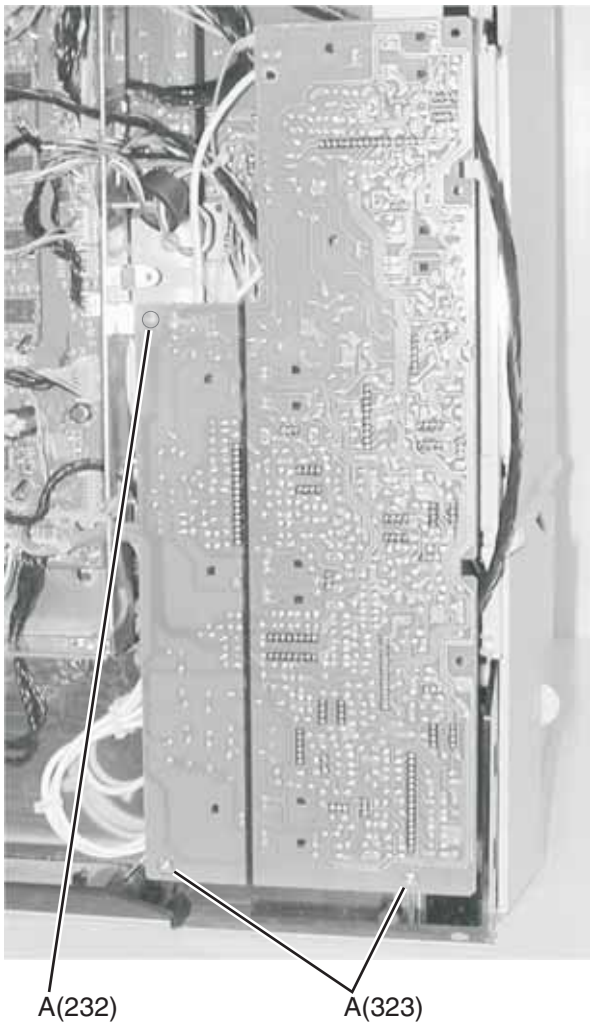
To verify the output options are recognized:

1. At the Ready prompt, select **Paper Menu**.
2. Select **Output Bin**.
3. Make sure all installed options are listed.

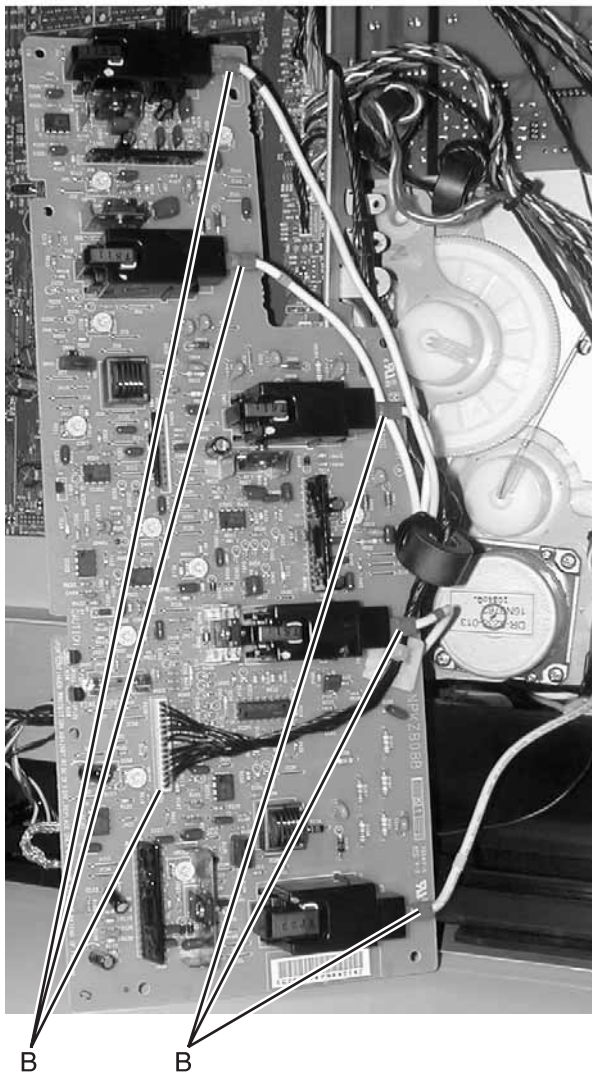
Transfer HVPS board

Go to **“Transfer HVPS board” on page 7-34** for part number.

1. Remove the rear cover. See **“Rear cover” on page 4-16**.
2. Remove three transfer HVPS board screws (A).



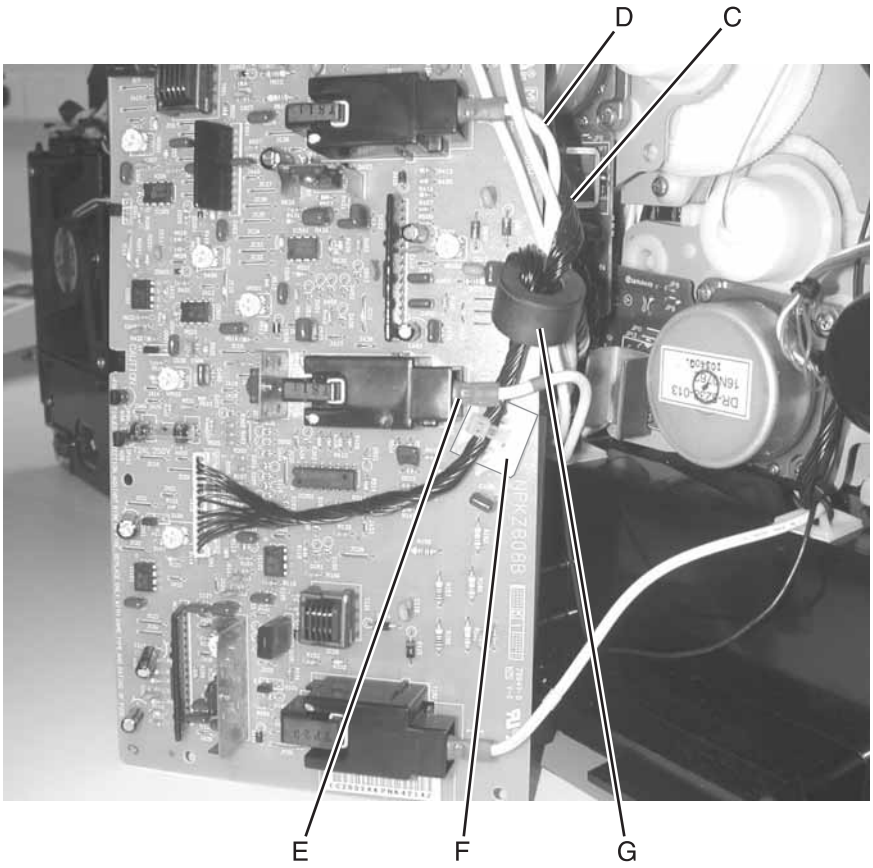
3. Remove all connectors (B).



4. Remove the transfer HVPS board.

Installation notes

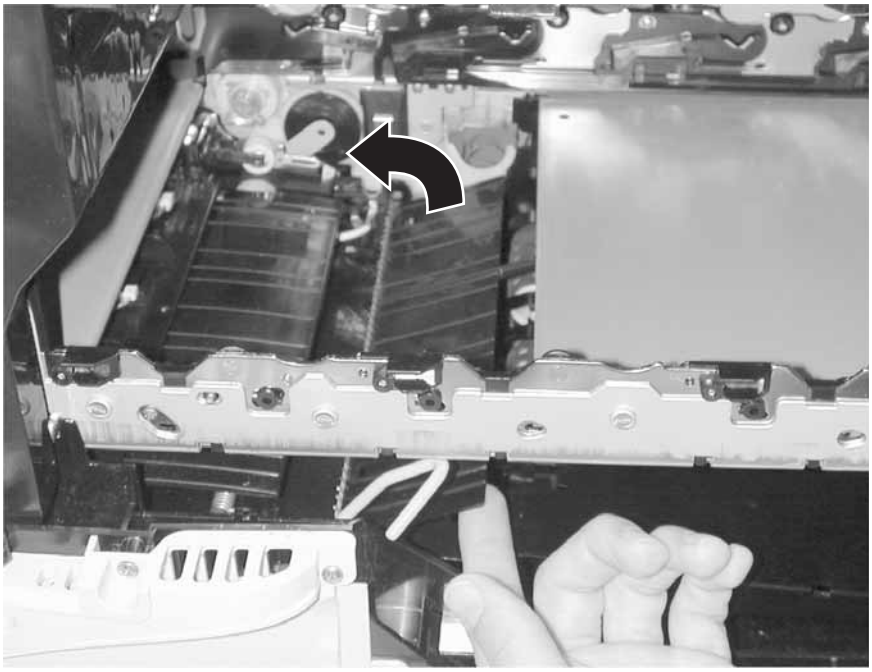
- To identify the color coded cable bands to the connectors, see **“Transfer high voltage power supply (HVPS)” on page 5-20**.
- When installing the transfer HVPS board, route the cable to the HVPS input connector at CN1 (C) over the cable to the yellow transfer contact (D), under the cable to the magenta transfer contact (E), and attached to the cable tie (F). This makes sure the toroid (G) does not come into contact with the motor when the card is in place.

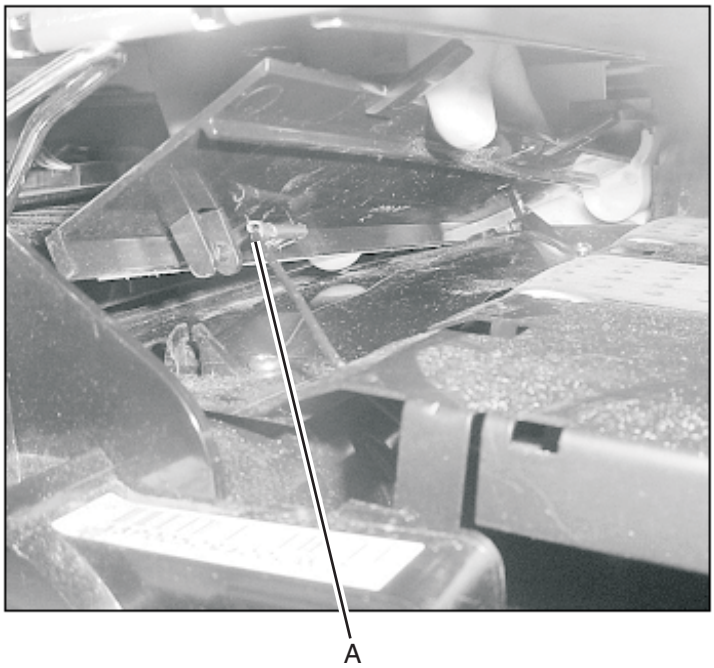


Transfer plate assembly

Go to **“Transfer plate assembly” on page 7-12** for part number.

1. Remove the S2/narrow media/transparency/multipurpose feeder cable. See **“S2/narrow media/transparency/multipurpose feeder cable” on page 4-70**.
2. Remove the transfer plate. Lifting and rotating the right edge of the plate up to a 45° angle releases the transfer plate. Remove the grounding strap (A) attached to the bottom of the transfer plate.



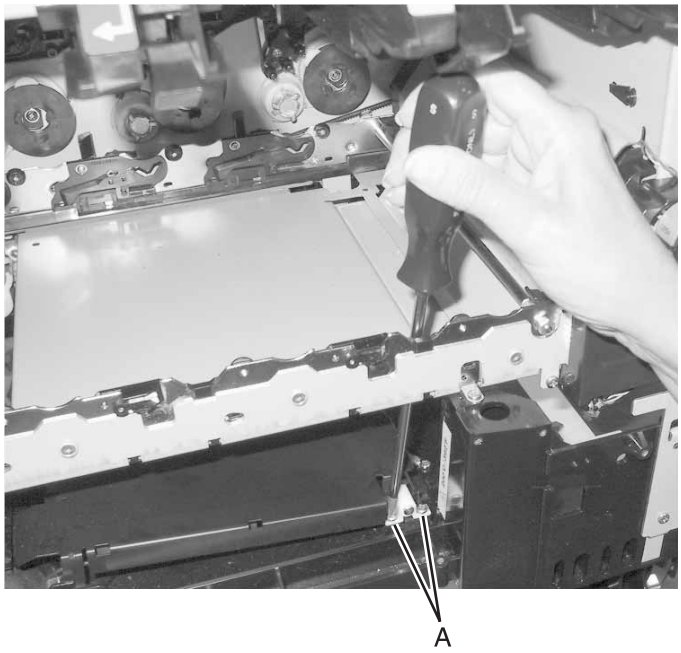


3. Remove the transfer plate assembly.

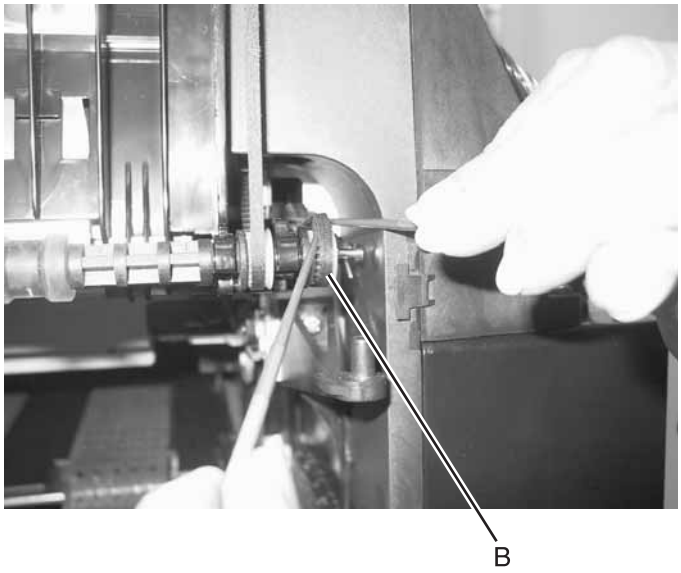
Vacuum transport belt (VTB)

Go to **“Vacuum transport belt assembly” on page 7-11** for part number.

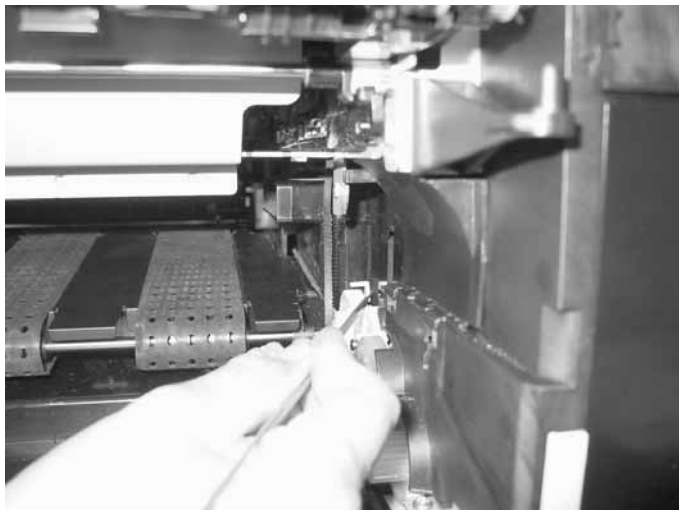
1. Remove the transfer plate assembly. See **“Transfer plate assembly” on page 4-76**.
2. Remove the fuser bottom duct. See **“Fuser bottom duct” on page 4-36**.
3. Remove the two front screws (A).



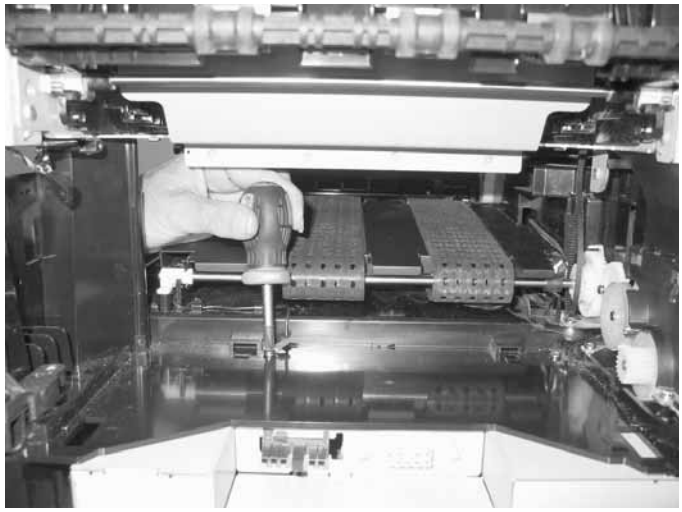
4. Loosen belt (B) on redrive assembly and remove from redrive gear.
5. Remove belt from gear on vacuum belt transfer unit.



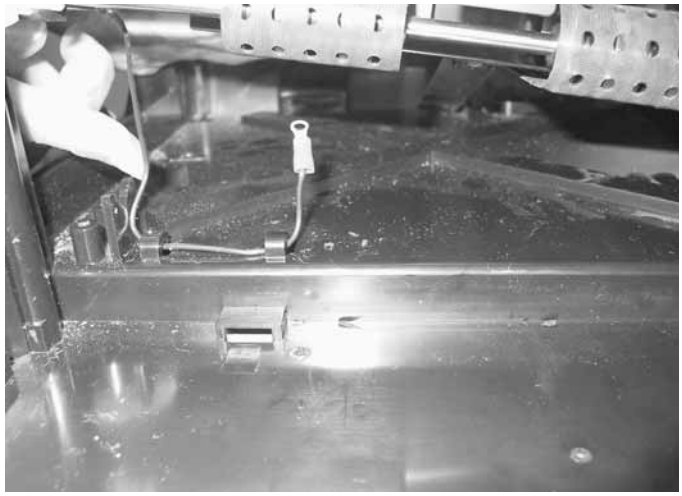
6. Rotate release lever on gear until the gear can be removed.



7. Remove screw from ground wire.



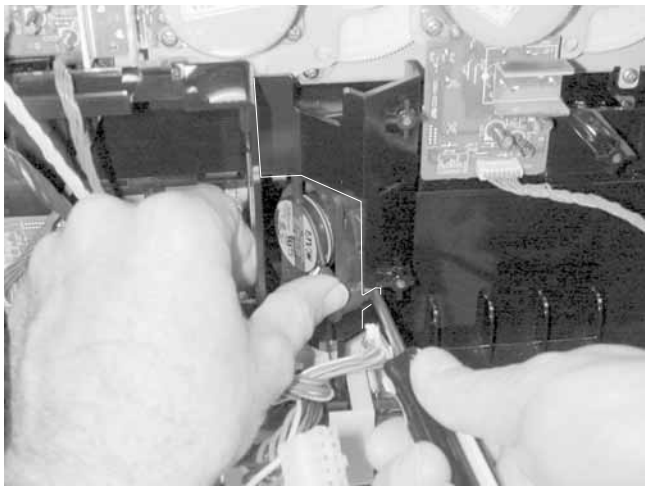
8. Remove vacuum belt transfer belt unit far enough to release ground wire from restraint clips and remove completly.



Vacuum transport belt (VTB) fan

Go to **"VTB fan, 60 mm" on page 7-35** for part number.

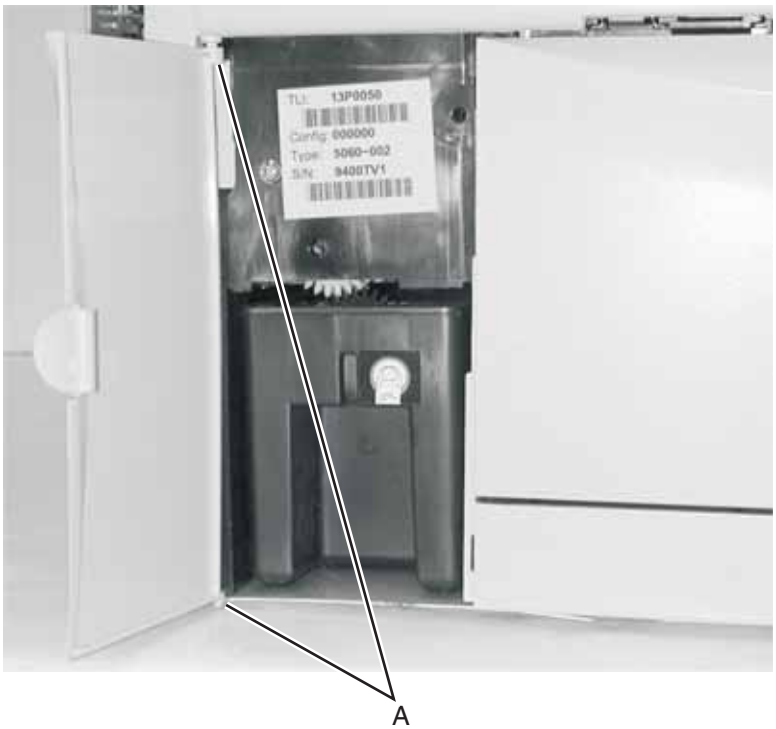
1. Disconnect VTB fan from the system board.
2. Remove VTB fan with a flatblade screwdriver.



Waste container door

Go to **"Waste container door" on page 7-5** for part number.

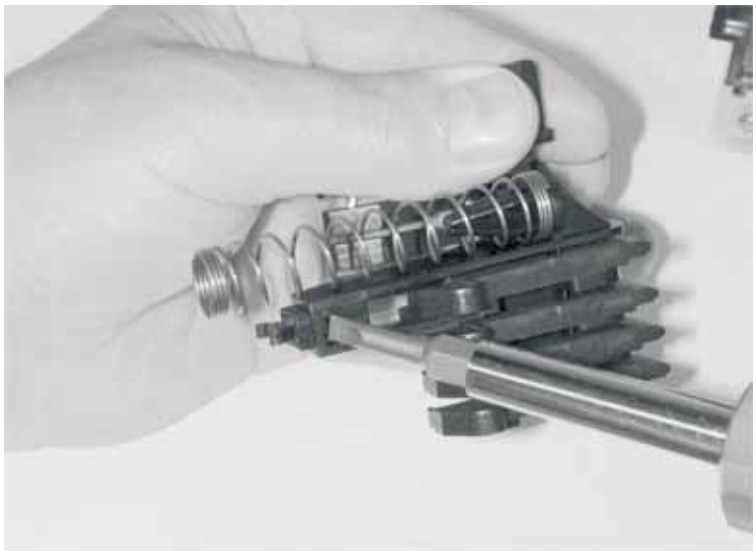
1. Open the waste container door.
2. Flex the door and remove it from the hinges (A).



Waste container latch

Go to **“Waste container latch” on page 7-26** for part number.

1. Remove the paper size sensing assembly. See **“Paper size sensing assembly” on page 4-55**.
2. Use a flatblade screwdriver to release the waste container latch from the paper size sensing assembly.



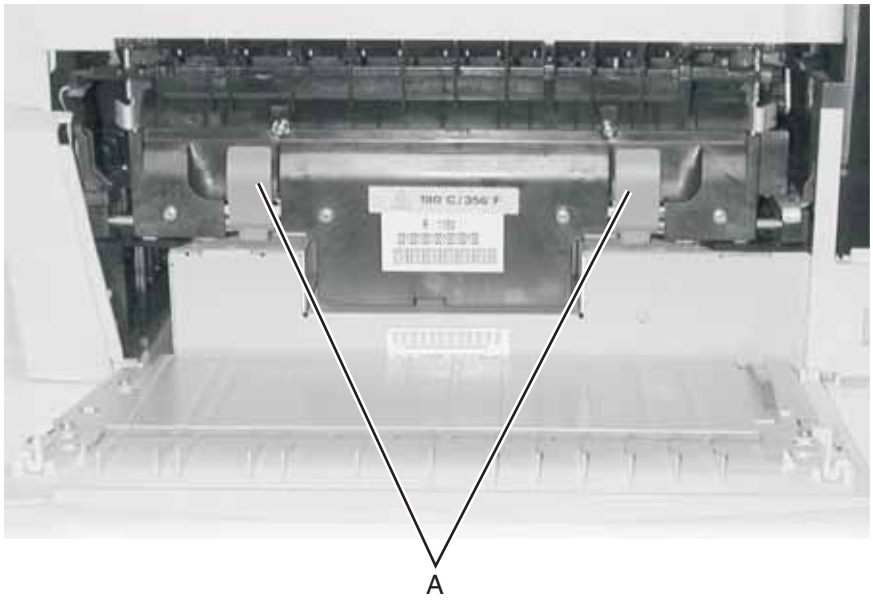
Web oiler fuser kit installation

1. Enter Diagnostic mode. See **“Entering Diagnostics mode” on page 3-13**.
2. Select **PRINTER SETUP**.
3. Select **Configuration ID**.
4. Increase the last two digits each by four.

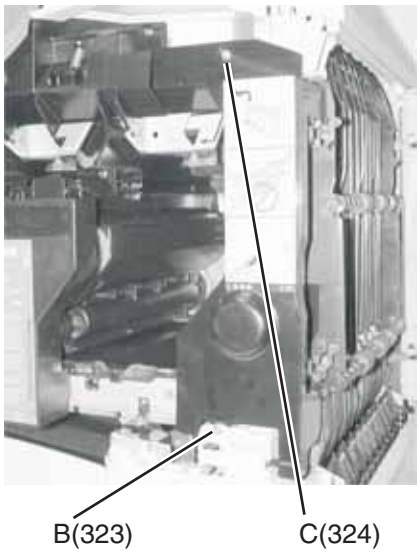
```
Configuration ID
=123456*
```

   The left digit blinks, indicating it is the first digit to be changed. Press **Select** to accept the current value and skip to the next digit. Change the two digits on the right to increase each of their values by four. For example, in this case, change 1234**56** to 12349A. To change the value of a digit, press **Menu** until the desired value is displayed and press **Select**. When the last (rightmost digit) is changed and **Select** is pressed, the new value is set. The printer automatically begins POR.
5. Turn the printer off.
6. Open the fuser access cover.

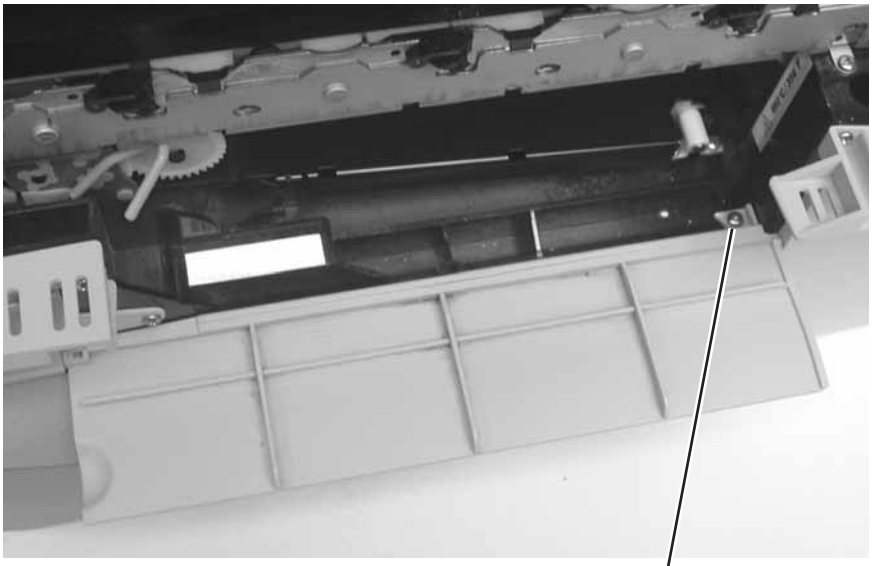
7. Unlatch the two fuser latches (A).



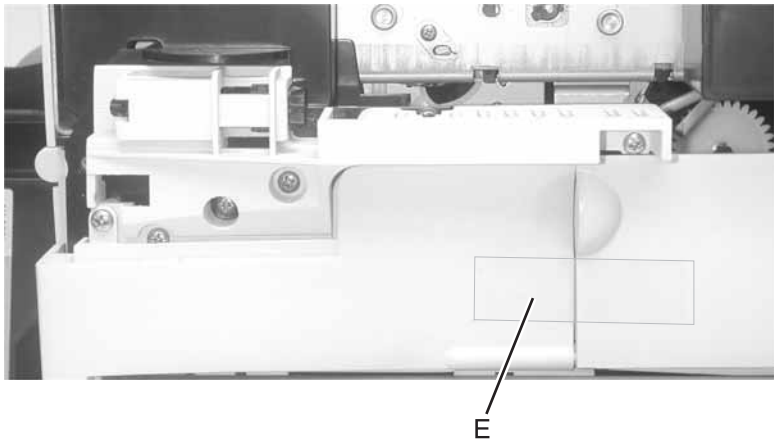
8. Remove the fuser assembly.
9. Open the front cover.
10. Remove the yellow print cartridge.
11. Remove the front right light shield screws (B) and (C) and remove the light shield.



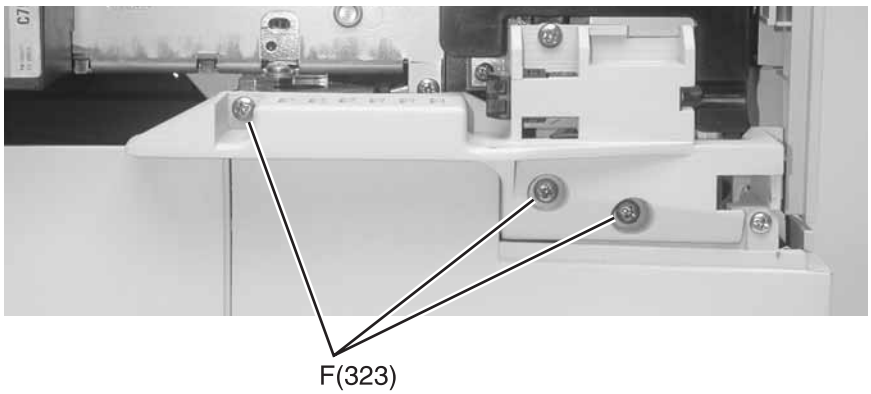
12. Carefully remove the paper path access door cover right mounting screw (D).



13. Tape front jam access door (E) if tape is available, to help hold the door in place.

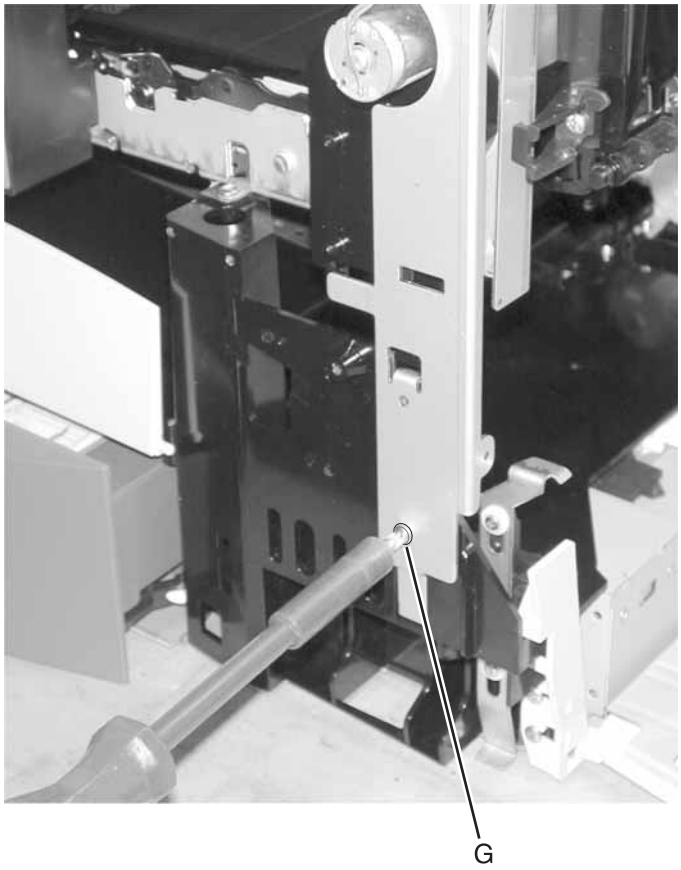


14. Remove the front right handle cover assembly screws (F) and remove the assembly.

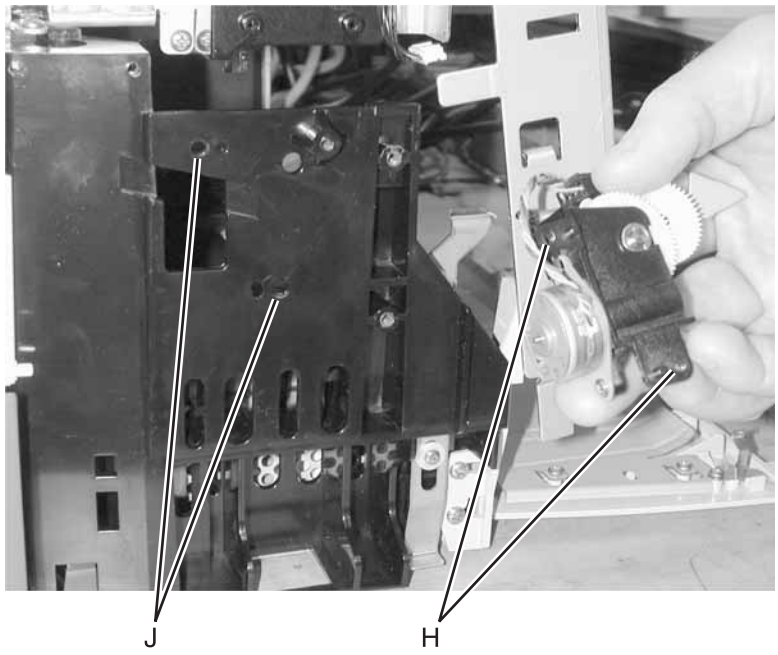


15. Open paper tray.

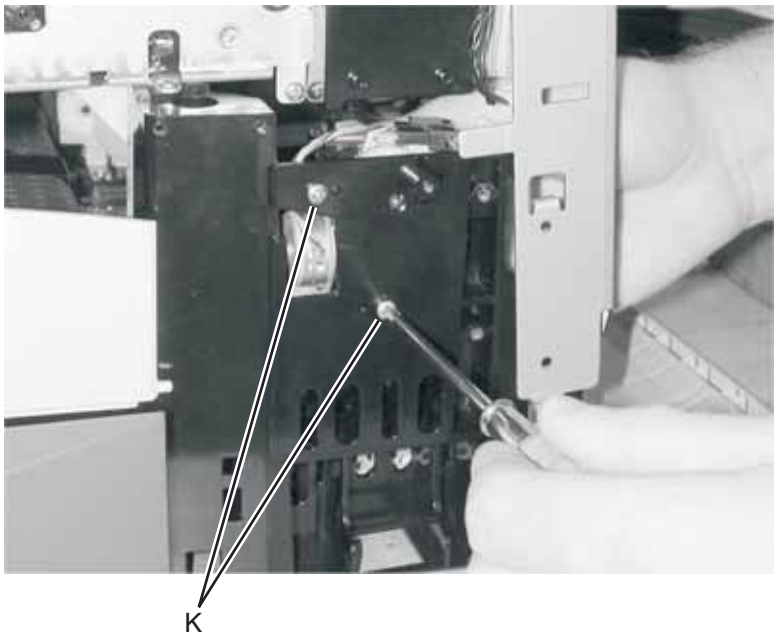
16. Remove screw (G) from the top front support bracket. Swing bracket to the right.



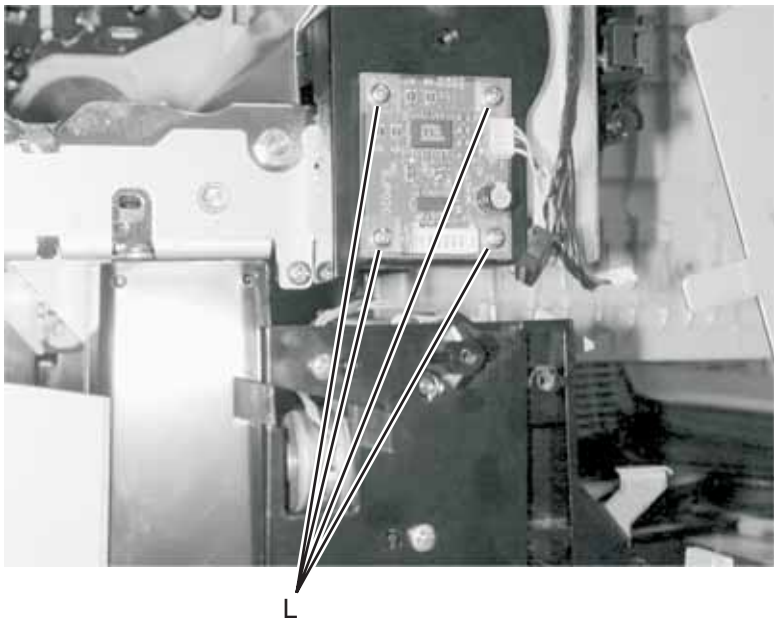
17. Use the alignment pins (H) on the web oiler fuser motor assembly to position the assembly in holes (J) and install the assembly.



18. Secure the web oiler motor assembly with screws (K).

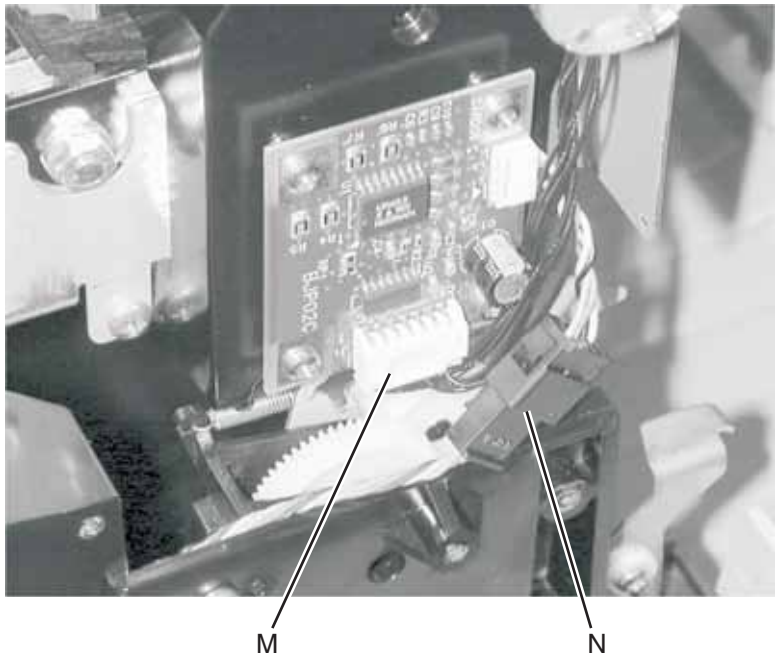


19. Install the web oiler card using screws (L).



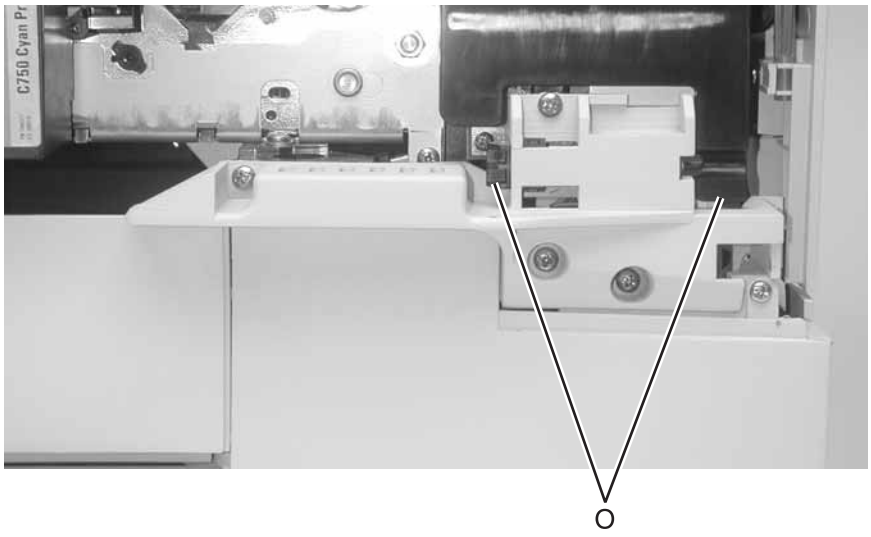
20. Plug web oiler cable into web oiler card connector (M). Plug web oiler drive assembly cable into cable connector (N).

Note: Make sure the cables from the drive assembly are routed along the lower frame and are not in contact with the drive assembly gears.

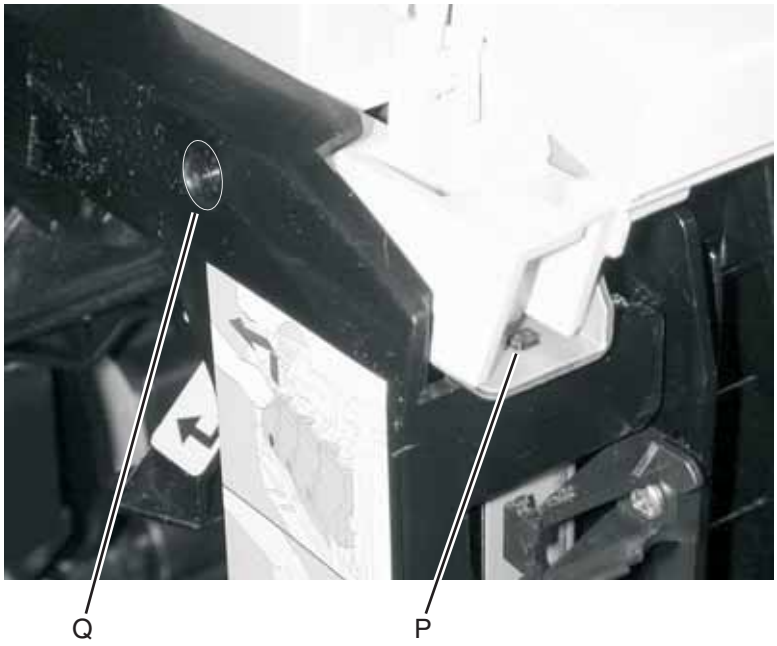


21. Reinstall paper path access door.

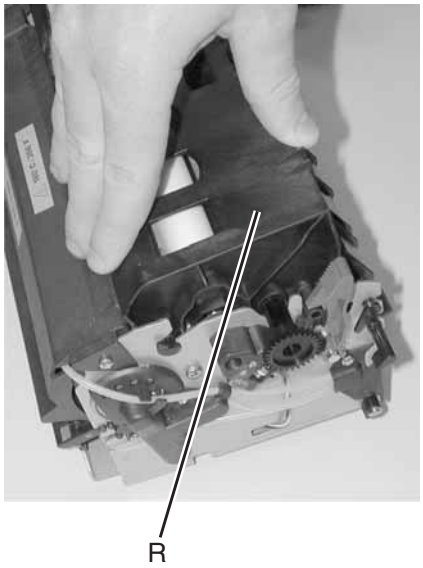
22. Align tabs on the front right light shield with the slots (O) on the frame.



23. Move the front right light shield up until alignment stud (P) and the screw hole (Q) are aligned.



24. Attach the new fuser web oiler fuser housing (R) to the new web oiler fuser.

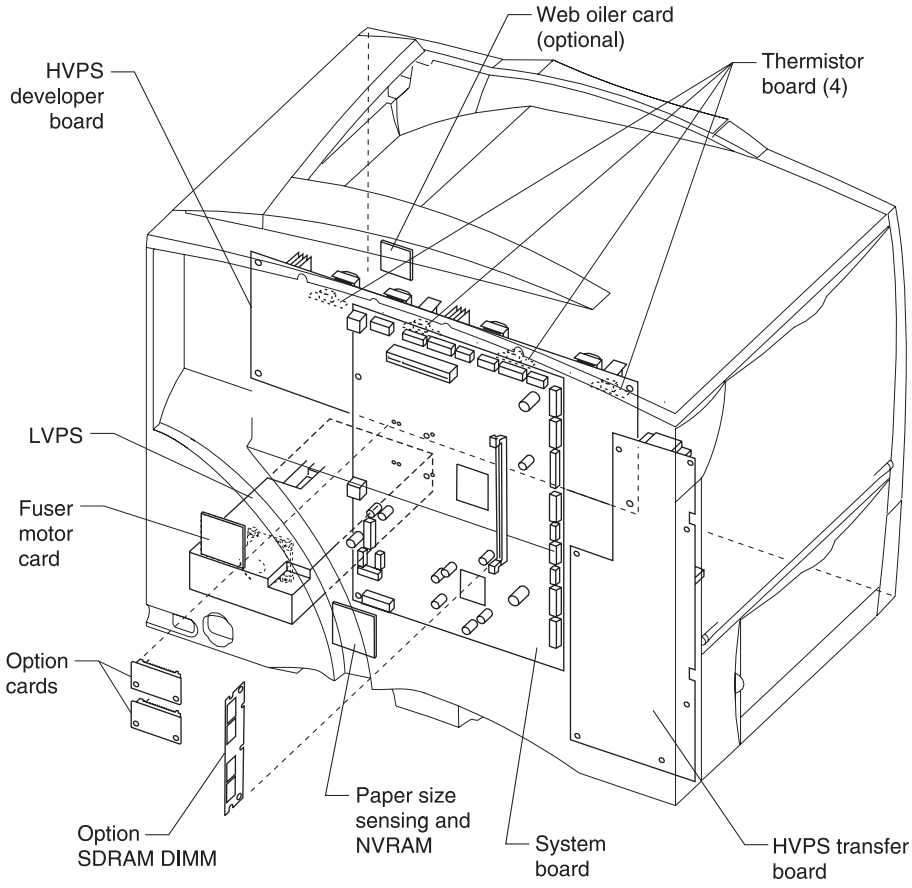


25. Insert the web oiler fuser assembly into the fuser assembly and install the fuser assembly into the printer.

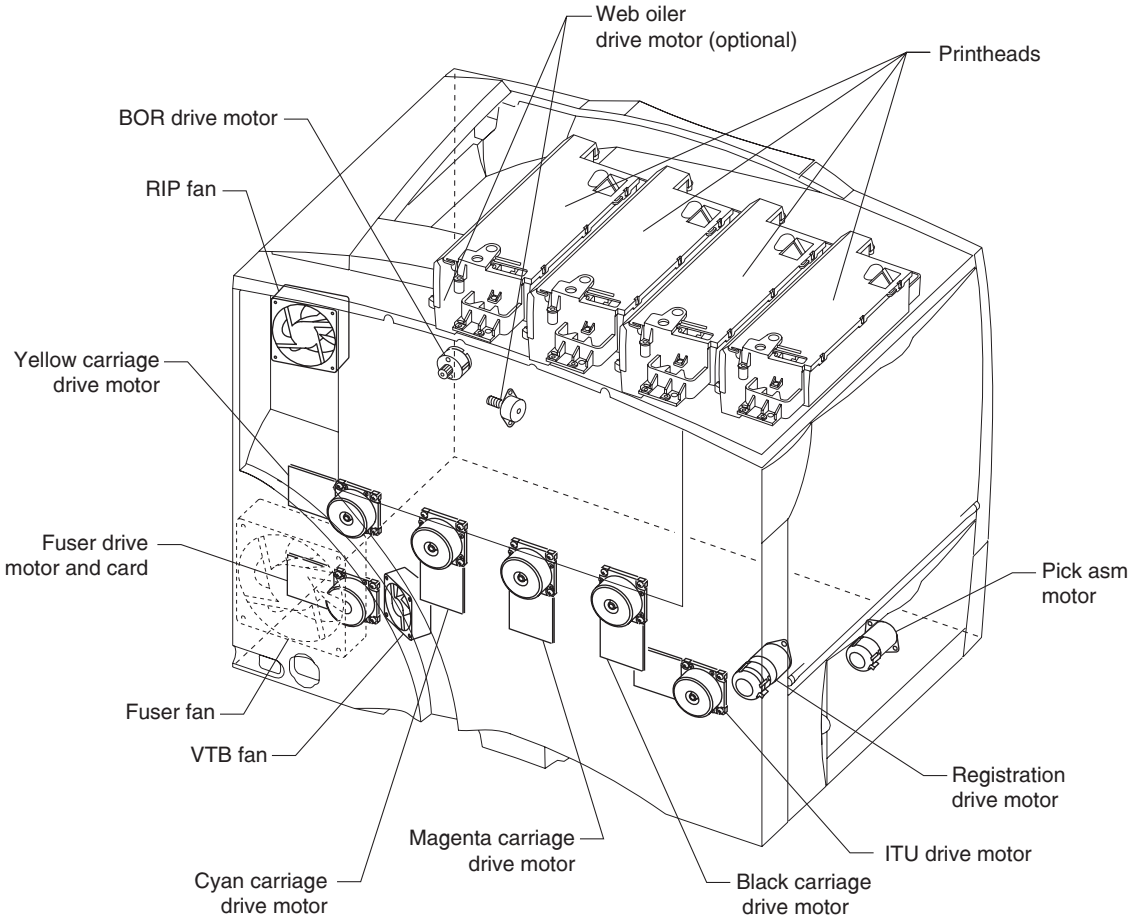
5. Connector locations

Locations

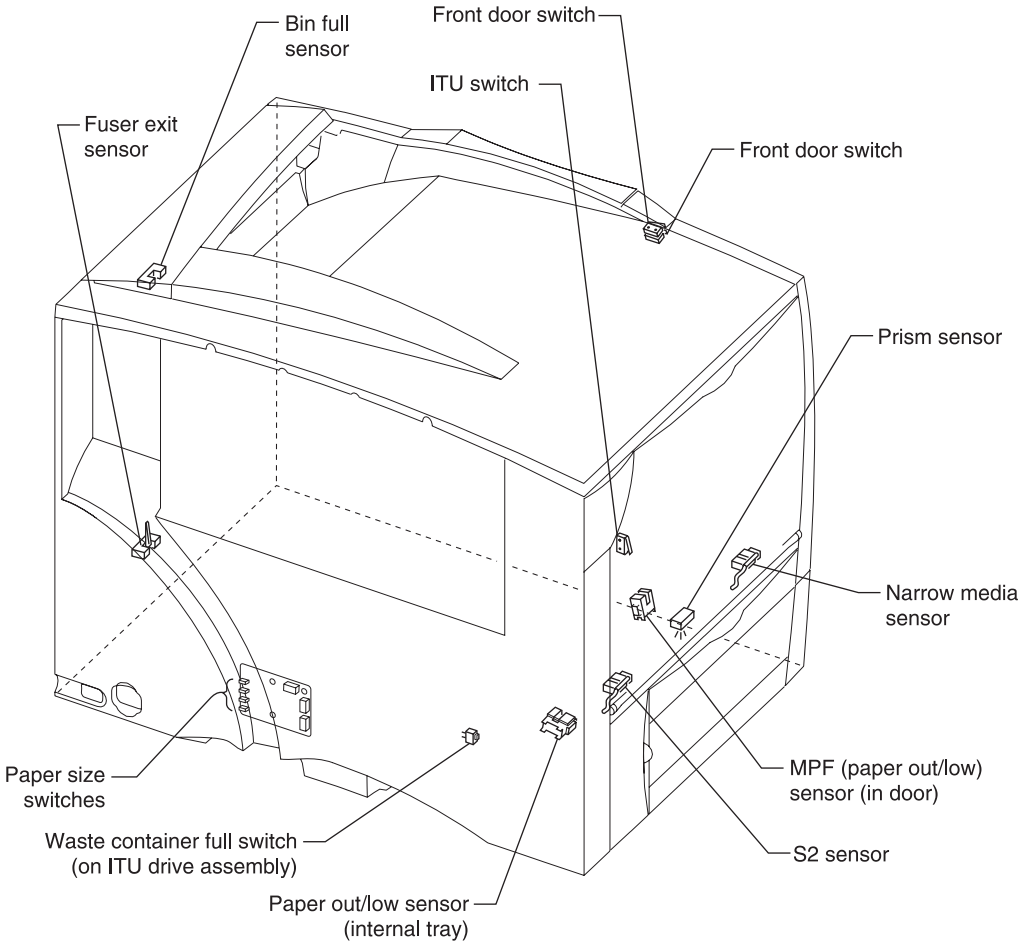
Printer boards



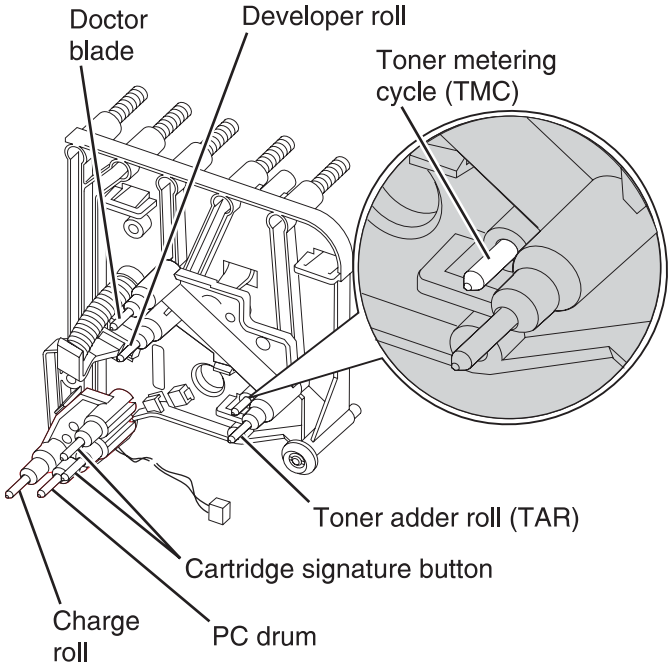
Printer motors



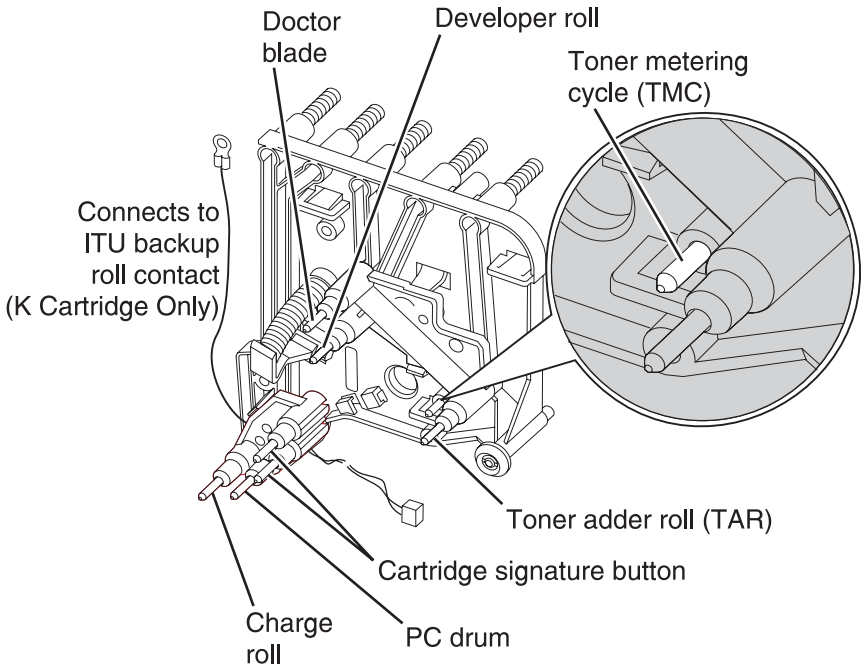
Printer sensors



Cartridge contact assembly pin locations (cyan, magenta and yellow)

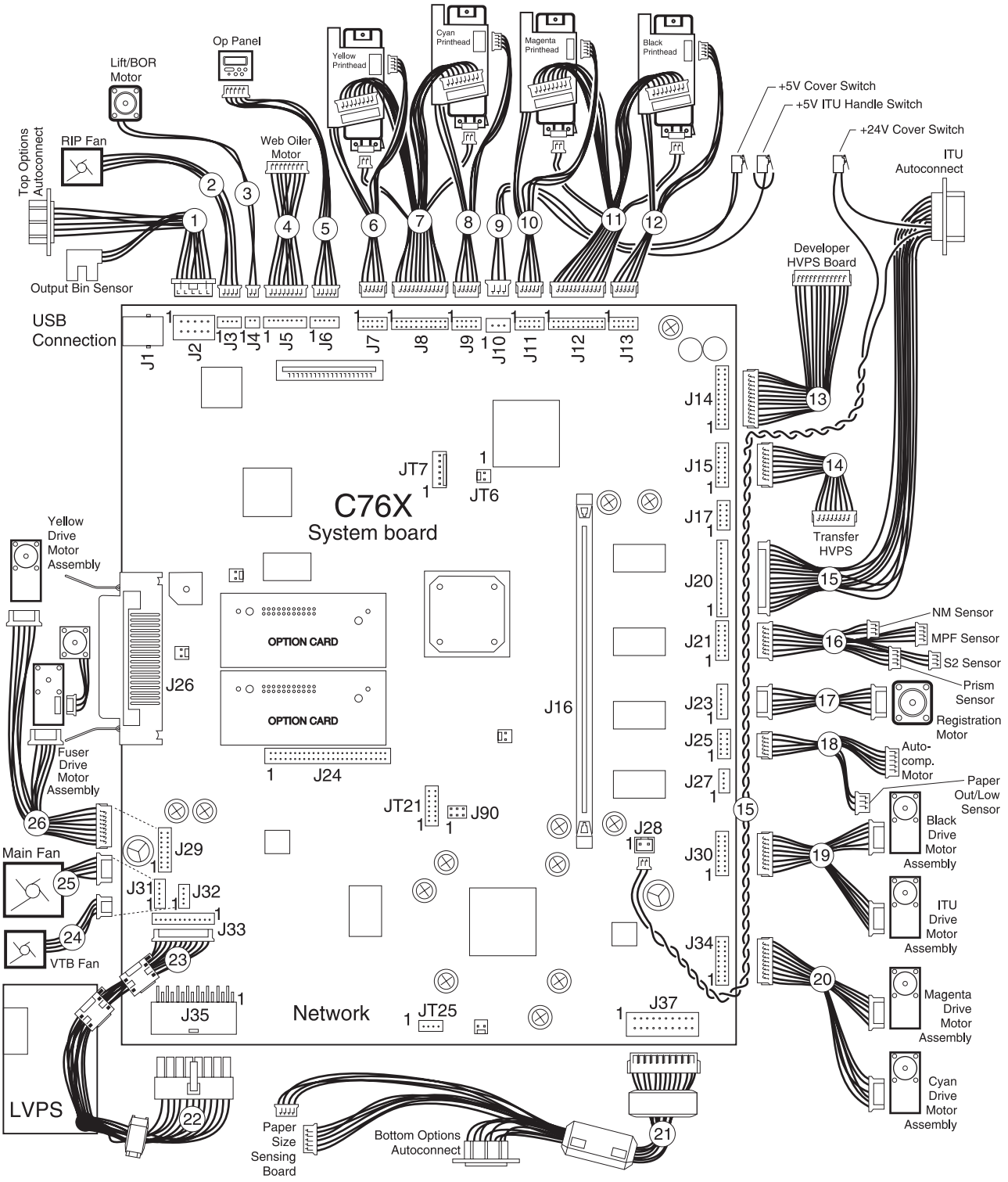


Cartridge contact assembly pin locations (black)

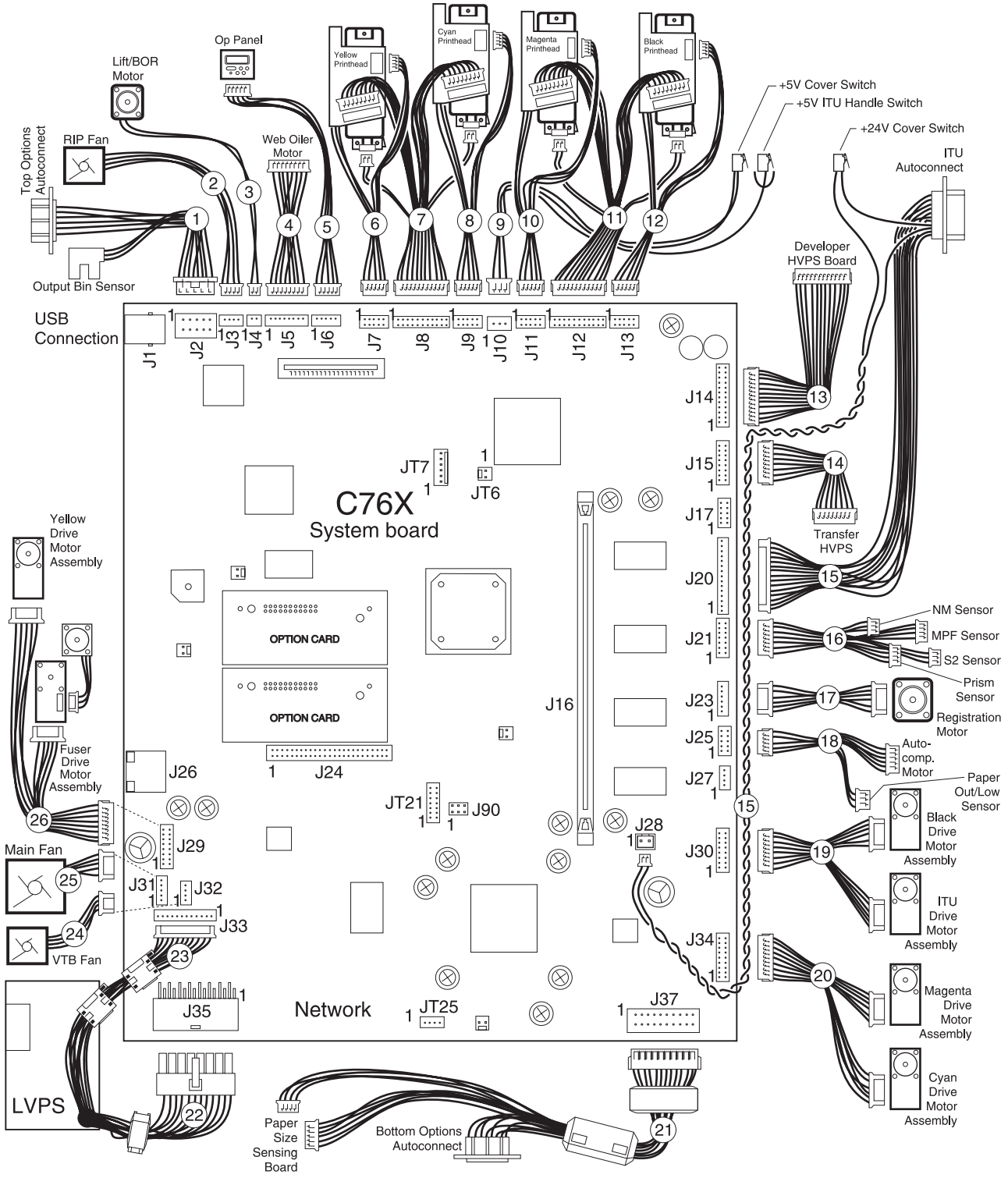


Connectors

System board - non-network



System board - network



System board

See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

Connector	Pin no.	Signal
J1 USB Port	G1	Ground
	1	USB +5 V dc
	2	USB D-
	3	USB D+
	4	Ground
	G2	Ground
J2 Top Options Connector Bin Full	1	Printer TXD
	2	Ground
	3	Ground
	4	Printer RXD
	5	+24V_OPTIONS (through fuse F11)
	6	Ground
	7	+5V_OPTIONS (through fuse F9
	8	+5V_BIN_FULL (switched)
	9	Ground
	10	BIN_FULL_IN
J3 RIP fan	1	FAN3_STALL_IN
	2	Ground
	3	FAN3_CNTRL-
	4	+24V_LEFTSIDE
	5	N/C
J4 BOR lift motor	1	LIFT_OUT- (+24 V dc in standby)
	2	LIFT_OUT+ (+24 V dc in standby)
J5 Web Oiler Motor	1	+5V dc (through fuse F8)
	2	OILER_CURR_SEL_A
	3	OILER_CURR_SEL_B
	4	OILER_PHASE_A
	5	OILER_PHASE_B
	6	Ground
	7	+24V_LEFTSIDE
J6 Operator panel	1	BUF_I2CDATA
	2	+5V dc (through fuse 8)
	3	BUF_I2CCLK
	4	Ground
	5	OP-Panel Interrupt (Active line)

See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

Connector	Pin no.	Signal
J7 Yellow Printhead Mirror Motor	1	FUSE24V
	2	Ground
	3	Ground
	4	+5 V dc (through fuse F12)
	5	Y MMSTART
	6	Y HSYN-SOS
	7	Y MMLOCK
	8	Ground
	9	Y MMREF
	10	N/C
J8 Yellow and Cyan Video to Printheads	1	C_DATA+
	2	Ground
	3	C_DATA-
	4	Y_THERMISTOR
	5	Ground
	6	Y_LENA
	7	+5 V dc (through fuse F12 and safety switches at J10)
	8	Ground
	9	C_LPWM
	10	Y_LADJ
	11	Ground
	12	Ground
	13	C_LADJ
	14	Y_LPWM
	15	Ground
	16	+5 V dc (through fuse F12 and safety switches at J10)
	17	C_LENA
	18	Ground
	19	C_THERMISTOR
	20	Y_DATA-
	21	Ground
	22	Y_DATA+

See “System board - non-network” on page 5-6 or “System board - network” on page 5-7.

Connector	Pin no.	Signal
J9 Printhead - Cyan Mirror Motor	1	FUSE24V
	2	Ground
	3	Ground
	4	+5 V dc (through fuse F12)
	5	C_MMSTART
	6	C_HSYN_SOS
	7	C_MMLOCK
	8	Ground
	9	C_MMREF
	10	N/C
J10 Cover Open Switch	1	+5 V dc (direct from low voltage power supply)
	2	Ground
	3	VDO_ERR (+5 V dc to J8 and J12)
J11 Printhead - Magenta Mirror Motor	1	FUSE24V
	2	Ground
	3	Ground
	4	V_V5FUSE
	5	M_MMSTART
	6	M_HSYN-S0S
	7	M_MMLOCK
	8	Ground
	9	M_MMREF
	10	N/C

See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

Connector	Pin no.	Signal
J12 Printhead - Black/Magenta Video	1	K_DATA+
	2	Ground
	3	K_DATA-
	4	M_THERMISTOR
	5	Ground
	6	M_LENA
	7	+5 V dc (through fuse F12 and safety switches at J10)
	8	Ground
	9	K_LPWM
	10	M_LADJ
	11	Ground
	12	Ground
	13	K_LADJ
	14	M_LPWM
	15	Ground
	16	+5 V dc (through fuse F12 and safety switches at J10)
	17	K_LENA
	18	Ground
	19	K_THERMISTOR
	20	M_DATA-
	21	Ground
	22	M_DATA+
J13 Printhead - Black Mirror Motor	1	FUSE24V
	2	Ground
	3	Ground
	4	+5 V dc (through fuse F12)
	5	K_MMSTART
	6	K_HSYN-SOS
	7	K_MMLOCK
	8	Ground
	9	K_MMREF
	10	N/C

See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

Connector	Pin no.	Signal
J14 Developer HVPS	1	-CART_METER_K_IN
	2	K_AC_BIAS_ENABLE (active low)
	3	SC_K_CHIP
	4	N/C
	5	K_DEV_PWM_OUT
	6	-CART_METER_M_IN
	7	K_CHARGE_PWM_OUT
	8	CMY_CHARGE_PWM_OUT
	9	SC_M_CHIP
	10	N/C
	11	-CART_METER_C_IN
	12	CMY_AC_BIAS_ENABLE (active low)
	13	SC_C_CHIP
	14	N/C
	15	M_DEV_PWM_OUT
	16	-CART_METER_Y_IN
	17	C_DEV_PWM_OUT
	18	Y_DEV_PWM_OUT
	19	SC_Y_CHIP
	20	N/C
	21	Ground
	22	+24V_SWITCHED
	23	N/C
	24	N/C

See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

Connector	Pin no.	Signal
J15 Transfer HVPS	1	ITU_TX_ENA_OUT (active low)
	2	ITU_TX_CUR_PWM_OUT
	3	ITU_SERVO_IN
	4	ITU_TX_PWM_OUT
	5	CMY_TX_ENA_OUT (active low)
	6	K_SERVO_IN
	7	K_TX_PWM_OUT
	8	C_SERVO_IN
	9	C_TX_PWM_OUT
	10	M_SERVO_IN
	11	Y_TX_PWM_OUT
	12	Y_SERVO_IN
	13	M_TX_PWM_OUT
	14	Ground
	15	+24V_SWITCHED
	16	N/C
J16 Option DRAM Socket		
J17 Not Used		
J18 Parallel Port		
J19 Not Used		
J20 ITU/TPS Autoconnect	1	N/C
	2	ITU_I2C_DATA
	3	+3.3V dc (Through fuse F13)
	4	TPS_GAIN_OUT
	5	ITU_TEMP
	6	BELT_HOLE 1 N/C
	7	Ground
	8	Ground
	9	ITU_I2C_CLK
	10	+24V_SWITCHED
	11	TPS_LED_ON_OUT
	12	TONER_PATCH_OUT
	13	N/C
	14	BELT_HOLE 2
	15	+5V_SWITCHED

See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

Connector	Pin no.	Signal
J21 S2/Narrow Media/Prism/ MPF Sensor	1	Ground
	2	+5V dc S2 (switched)
	3	NARROW_MEDIA_IN
	4	PAPERPATH_S2_IN
	5	+5 V dc NM (switched)
	6	Ground
	7	Ground
	8	+5 V dc PRISM (switched)
	9	PRISM_SENSOR_IN
	10	PRISM_LED_VOLT
	11	Ground
	12	+5 V dc MPF (switched)
	13	MPF_FEED_OUT_IN
	14	N/C
J22 INA Card Socket		
J23 Registration (staging) Motor	1	+5V_SWITCHED
	2	STAGING_ENC
	3	Ground
	4	N/C
	5	STAGING_OUT_2 (+24 V dc in standby)
	6	STAGING_OUT_1(+24 V dc in standby)
J24 Optional hard disk drive		
J25 Autocomp Motor	1	+5 V dc Paper level (switched)
	2	+5V_SWITCHED
	3	PAPER_OUT_IN
	4	AUTOCOMP_ENC
	5	PAPER_LOW_IN
	6	Ground
	7	Ground
	8	Ground
	9	AUTOCOMP_OUT1 (+24 V dc in standby)
	10	AUTOCOMP_OUT2 (+24 V dc in standby)
J26 Ethernet port		
J27 Not Used		
J28 Cover Open Switch (+24V dc switched)	1	+24V To Cover Open Switch
	2	+24V dc Switched

See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

Connector	Pin no.	Signal
J29 Fuser Stepper Motor/ Yellow BLDC Motor	1	Y_ON_OUT
	2	FUSER_ON_OUT (Fuser current I0)
	3	+5V dc (Through fuse F8)
	4	+5V dc (Through fuse F8)
	5	Y_DIR_OUT
	6	FUSER_DIR_OUT (Fuser phase B)
	7	+24V _Y_AND_FUSER (Through fuse F3)
	8	+24V_Y_AND_FUSER (Through fuse F3)
	9	Ground
	10	Ground
	11	Y_CLK_OUT
	12	FUSER_CLK_OUT (Fuser Phase A)
	13	Y_HALL_IN
	14	FUSER_HALL_IN (Fuser Current I1)
	15	N/C
	16	Ground
J30 ITU/Black BLDC Motors	1	K_ON_OUT
	2	ITU_ON_OUT
	3	+5V dc (Through fuse F8)
	4	+5V dc (Through fuse F8)
	5	K_DIR_OUT
	6	ITU_DIR_OUT
	7	+24V_K_AND_ITU (Through fuse F4)
	8	+24V_K_AND_ITU (Through fuse F4)
	9	Ground
	10	Ground
	11	K_CLK_OUT
	12	ITU_CLK_OUT
	13	K_HALL_IN
	14	ITU_HALL_IN
	15	N/C
	16	N/C
J31 Fuser Fan	1	FAN1_STALL_IN
	2	Ground
	3	FAN1_CNTRL
	4	+24V_LEFTSIDE
	5	Ground

See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

Connector	Pin no.	Signal
J32 VTB Fan	1	FAN2_STALL_IN
	2	Ground
	3	VTB_FAN_OUT (Fan 2 control)
	4	+24V_LEFTSIDE
J33 Fuser Interface	1	EXIT_SENSOR_IN
	2	FUSER_CAM_1_IN
	3	Ground
	4	OILER_ENC_A_IN
	5	OILER_ENC_B_IN
	6	HR_THERM_IN (hot roll thermistor)
	7	BR_THERM_IN (backup roll thermistor)
	8	Ground
	9	+5V_SWITCHED
	10	ZERO_XING_IN
	11	HR_HEAT_ON_OUT (hot roll control)
	12	BR_THERM_ON_OUT (backup roll control)
J34 Magenta/Cyan BLDC Motors	1	M_ON_OUT
	2	C_ON_OUT
	3	+5V dc (Through fuse F8)
	4	+5V dc (Through fuse F8)
	5	M_DIR_OUT
	6	C_DIR_OUT
	7	+24V_M_AND_C (Through fuse F5)
	8	+24V_M_AND_C (Through fuse F5)
	9	Ground
	10	Ground
	11	M_CLK_OUT
	12	C_CLK_OUT
	13	M_HALL_IN
	14	C_HALL_IN
	15	N/C
	16	N/C
	17	N/C
	18	N/C

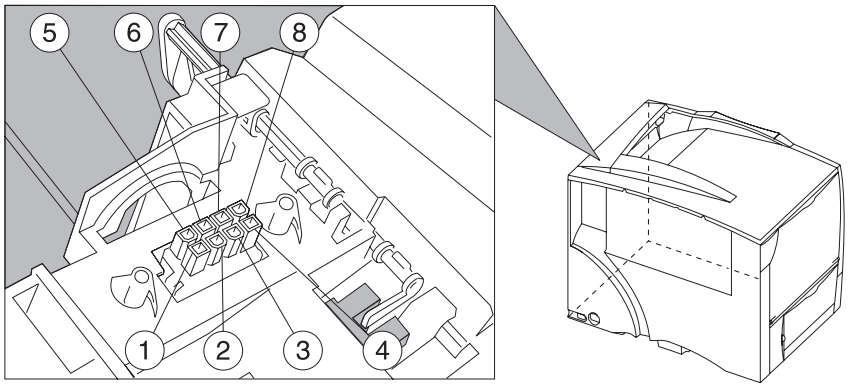
See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

Connector	Pin no.	Signal
J35 Low Voltage Power Supply	1	+3.3 V dc
	2	+3.3 V dc
	3	+5 V dc
	4	+5 V dc
	5	+24V dc
	6	+24V dc
	7	+24V dc
	8	+3.3 V dc Sense
	9	Ground
	10	Ground
	11	Ground
	12	Ground
	13	Ground
	14	Ground
	15	Ground
	16	Ground
J37 Bottom Options Connector Waste Toner Full Media Size	1	Printer TXD
	2	Ground
	3	Ground
	4	Printer RXD
	5	+24V_OPTIONS (Through fuse F11)
	6	Ground
	7	+5V_OPTIONS (Through fuse F9)
	8	Staging Encoder
	9	ITU_CLNR_FULL
	10	N/C
	11	Ground
	12	WASTE_BTL_PRES
	13	TRAY_SIZE_3
	14	Ground
	15	TRAY_SIZE_2
	16	TRAY_SIZE_1
	17	Ground
	18	+3.3 V dc (Through fuse F13)
	19	MEM_DATA (I^2C Data to Media Size Card)
	20	MEM_CLK (I^2C Clock to Media Size Card)

See "System board - non-network" on page 5-6 or "System board - network" on page 5-7.

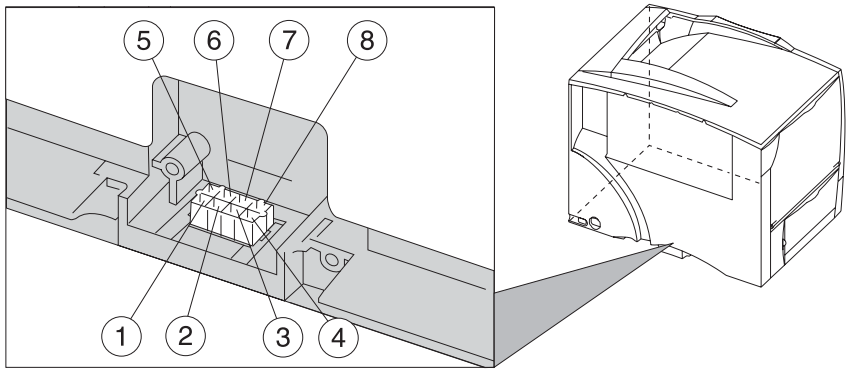
Connector	Pin no.	Signal
JT25 - Diagnostic port	1	Ground
	2	Printer RXD
	3	Printer TXD
	4	+5V dc (Through fuse F8)

Autoconnect—top



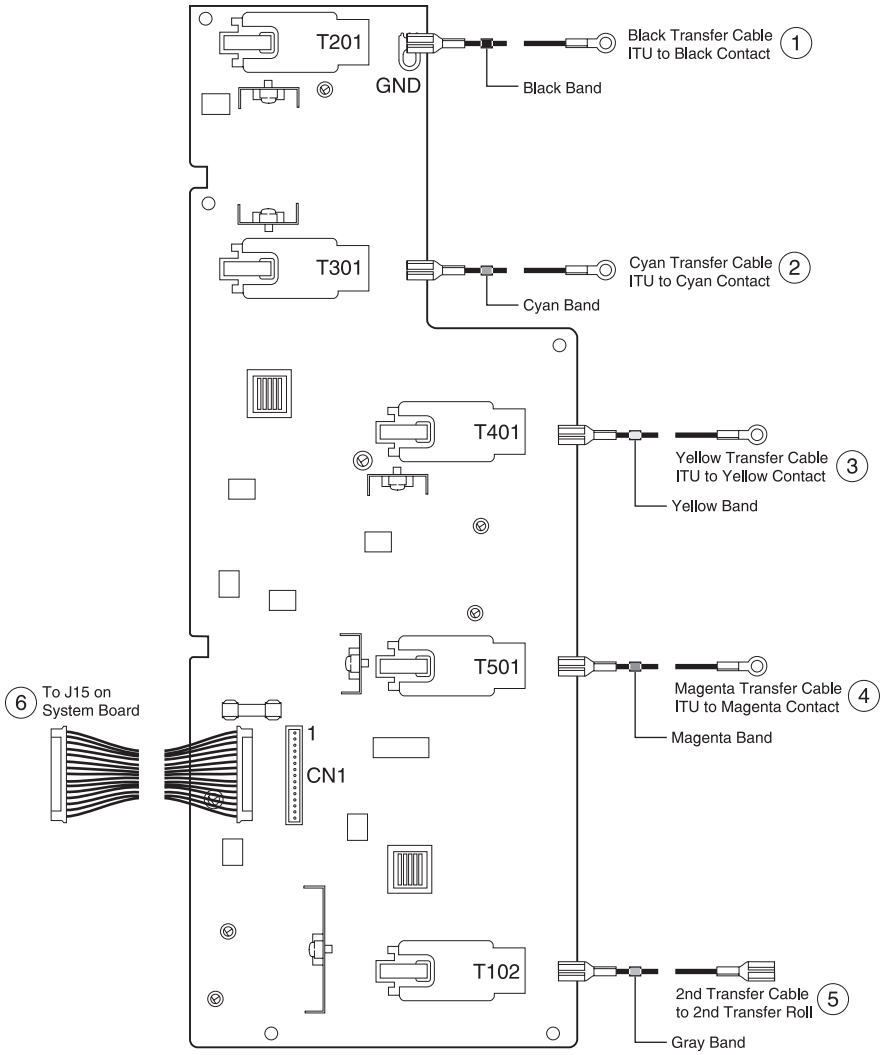
Connector	Pin no	Color	Signal
CN1 Autoconnect—top	1	White	+24 V dc
	2	Black	Ground
	3	Yellow	Printer RXD
	4	Black	Ground
	5	N/A	NC
	6	Red	+5 V dc
	7	Black	Ground
	8	Blue	Printer TXD

Autoconnect—bottom



Connector	Pin no	Signal	Signal
CN1 Autoconnect—bottom	1	White	+24 V dc
	2	Black	Ground
	3	Yellow	Printer RXD
	4	Black	Ground
	5	Brown	STAGING_ENCODER
	6	Red	+5 V dc
	7	Black	Ground
	8	Blue	Printer TXD

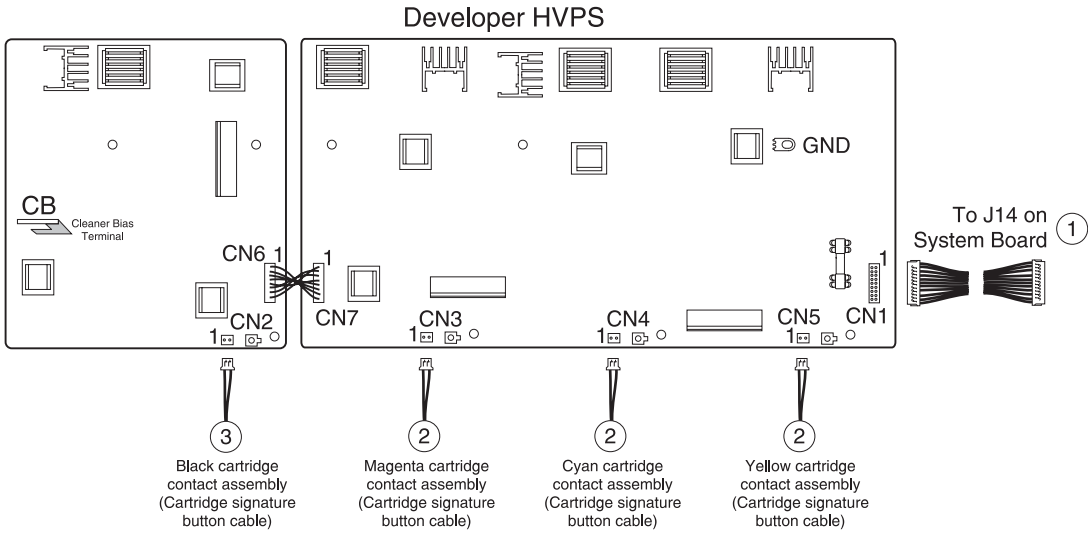
Transfer high voltage power supply (HVPS)



Transfer HVPS

Connector	Pin no	Signal
CN1 HVPS Input Connector	1	+24 V dc Switched
	2	+24 V dc Return
	3	M-Txpwm
	4	M-Srvo out
	5	Y-Txpwm
	6	Y-Srvo out
	7	C-Txpwm
	8	C-Srvo out
	9	K-Txpwm
	10	K-Srvo out
	11	KCYM-Txenable
	12	ITU-Txpwm
	13	ITU-Srvo out
	14	ITU-Txcurpwm
	15	TUI-Txenable
T102 Transformer HV Terminal I (ITU)	1	HV Transformer output to 2nd Transfer Roll Cable
T201 Transformer HV Terminal K Black	1	HV Transformer Output Terminal to Black Transfer Cable
T301 Transformer HV Terminal C Cyan	1	HV Transformer Output Terminal to Cyan Transfer Cable
T401 Transformer HV Terminal Y Yellow	1	HV Transformer Output Terminal to Yellow Transfer Cable
T501 Transformer HV Terminal M Magenta	1	HV Transformer Output Terminal to Magenta Transfer Cable

Developer high voltage power supply (HVPS) board

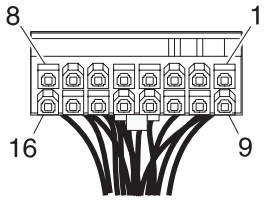
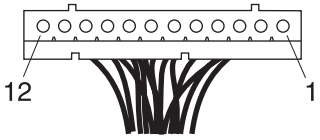


Connector	Pin no	Signal
CN1 Developer HVPS Input	1	+24 V dc Return
	2	+24 V dc
	3	Y-Ctsense
	4	Y-Devpwm
	5	Y-TnrSense
	6	C-Devpwm
	7	C-CtSense
	8	M-Devpwm
	9	C-TnrSense
	10	CYM-Acenable
	11	M-CtSense
	12	CYM-Chgpwm
	13	M-TnrSense
	14	K-Chgpwm
	15	K-CtSense
	16	K-Devpwm
	17	K-TnrSense
	18	K-Acenable
CN2 Cartridge Signature Button - Black	1	K-CtSense (red wire)
	2	K-TnrSense (Gnd Return) (black wire)
CN3 Cartridge Signature Button - Magenta	1	M-CtSense (red wire)
	2	M-TnrSense (Gnd Return) (black wire)
CN4 Cartridge Signature Button - Cyan	1	C-CtSense (red wire)
	2	C-TnrSense (Gnd Return) (black wire)

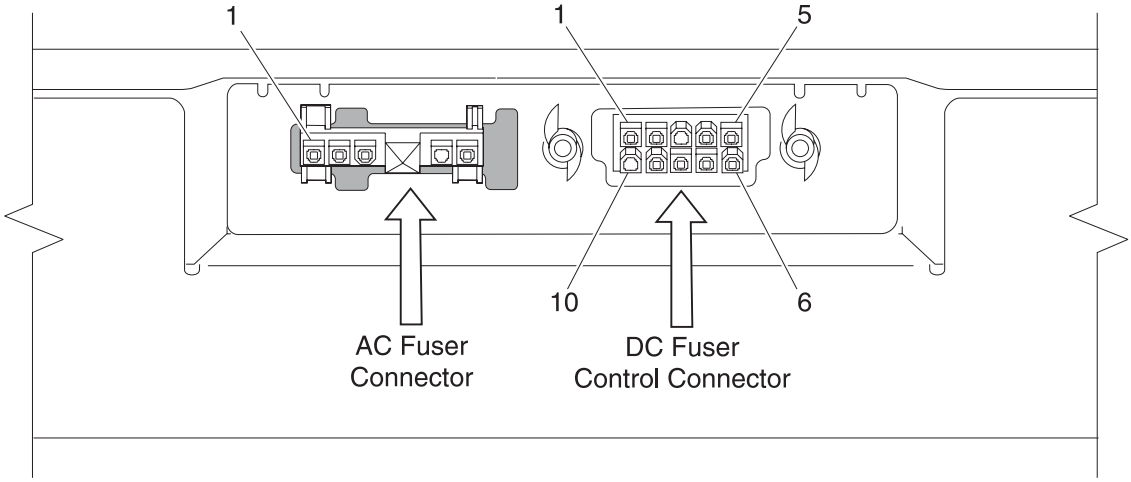
Connector	Pin no	Signal
CN5 Cartridge Signature Button - Yellow	1	Y-CtSense (red wire)
	2	Y-TnrSense (Gnd Return) (black wire)
CB Terminal		Cleaner Bias Terminal (not used)

Low voltage power supply (LVPS)

LVPS cable connectors to system board

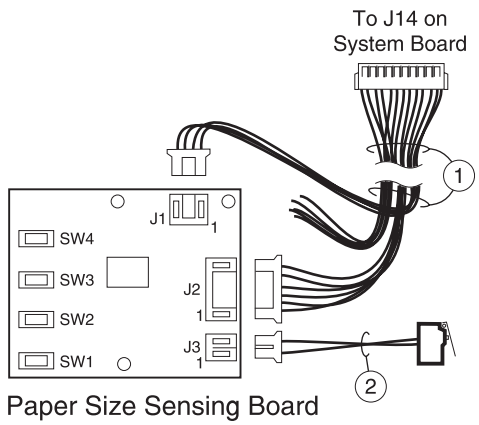
	Connector	Pin no.	Signal
 LVPS to J35 Cable Connector	Main power to system board (J35)	1	+3.3 V dc
		2	+3.3 V dc
		3	+5 V dc
		4	+5 V dc
		5	+24 V dc
		6	+24 V dc
		7	+24 V dc
		8	+3.3 V dc Sense
		9	Ground
		10	Ground
		11	Ground
		12	Ground
		13	Ground
		14	Ground
		15	Ground
		16	Ground
 LVPS to J33 Cable Connector	LVPS to system board cable for fuser (J33)	1	FusExitSen
		2	BURCam1
		3	Ground
		4	WebEncoderA IN
		5	WebEncoderB IN
		6	HRThermistor IN
		7	BURThermistor IN
		8	Ground
		9	+5 V dc switched
		10	XOVERXNG
		11	Heat On #1 (HR)
		12	Heat On #2 (BUR)

LVPS fuser connectors



Connector	Pin no.	Signal
LVPS AC Fuser Connector	1	AC Load #1
	2	AC Common
	3	Ground
	4	N/C
	5	AC Load #2x
LVPS DC Fuser Control Connector	1	FusExitSen
	2	BURCam1
	3	N/C
	4	WebEncoderA
	5	WebEncoderB
	6	HRThermistor
	7	BURThermistor
	8	Return - Analog Ground
	9	+5 V dc switched
	10	N/C

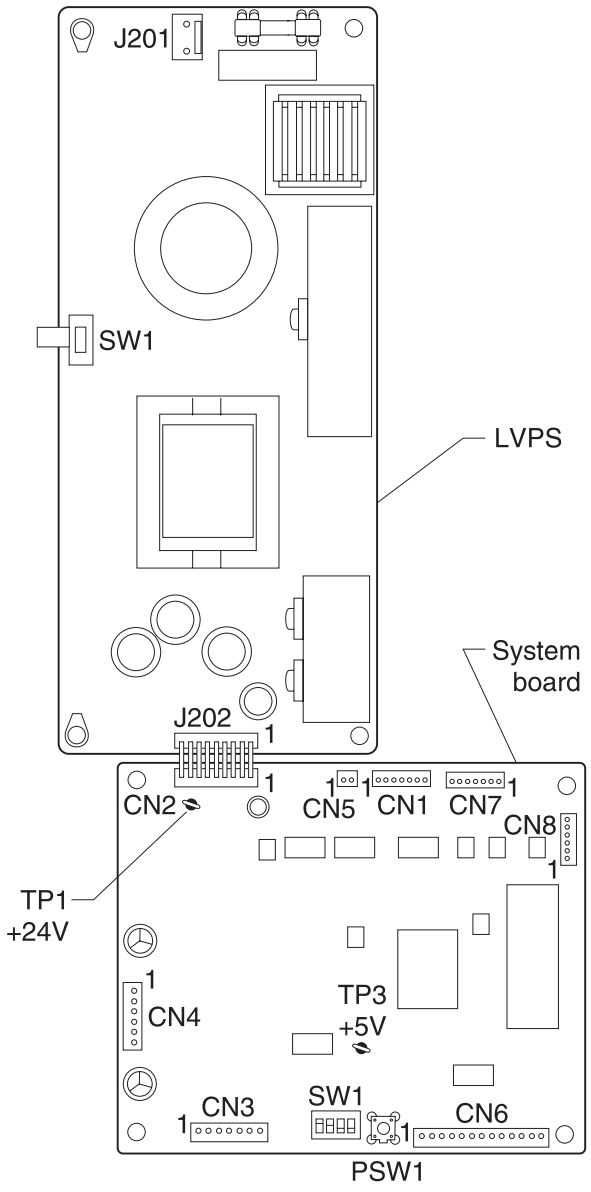
Paper size sensing board



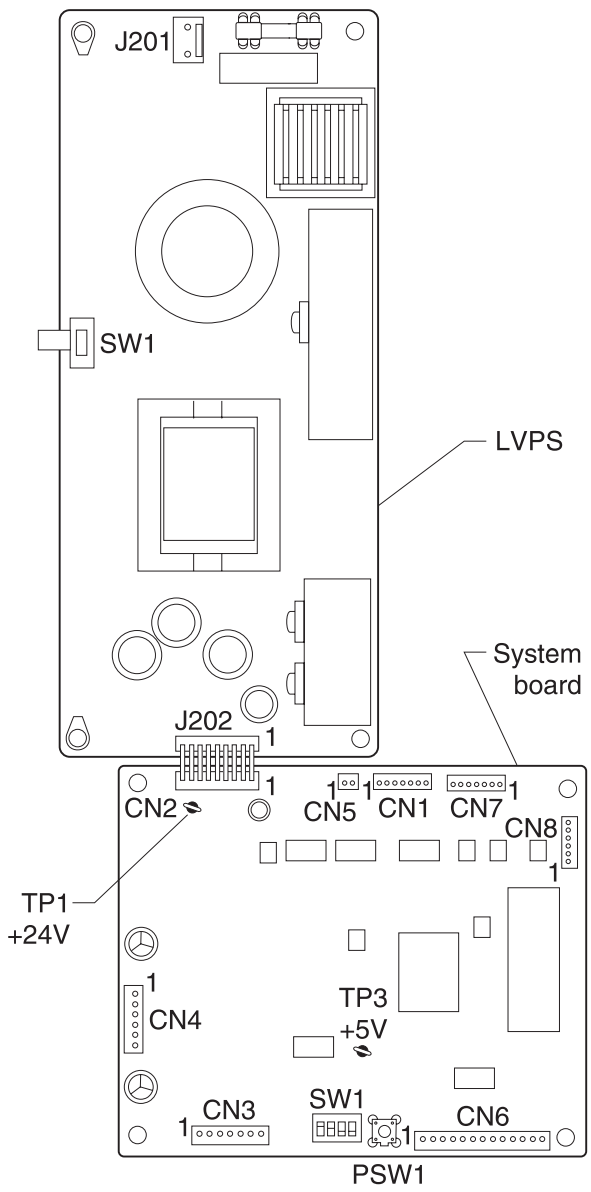
Connector	Pin no.	Signal
J1	1	+3.3V dc
	2	EPROM Data
	3	Ground
	4	EPROM Clock
J2	1	J3-1 (Waste BTL Full)
	2	Ground
	3	Waste BTL PRESENT (SW4)
	4	Tray Size 1 (SW3)
	5	Ground
	6	Tray Size 2 (SW2)
	7	Tray Size 3 (SW1)
J3	1	J2-1 (Waste BTL Full)
	2	Ground

High-capacity input tray (HCIT)

HCIT 2000-sheet board



Connector	Pin no.	Signal
CN1 I/F	1	Send
	2	PRI RXD
	3	PGND
	4	PERON
	5	SGND
	6	PRI TXD
CN2 LVPS	1	Poweron
	2	+5 V dc
	3	SGND
	4	PGND
	5	PGND
	6	PGND
	7	+24 V dc
	8	+24 V dc
	9	+24 V dc
CN3 REG Motor	1	+24 V dc
	2	+24 V dc
	3	REG A
	4	REG A
	5	REG B
	6	REG B
	7	No Connection
CN4 PICK Motor	1	+24 V dc
	2	+24 V dc
	3	PICK A
	4	*PICK A
	5	PICK B
	6	*PICK B
CN5 LIFT Motor	1	+24 V dc
	2	LHOT

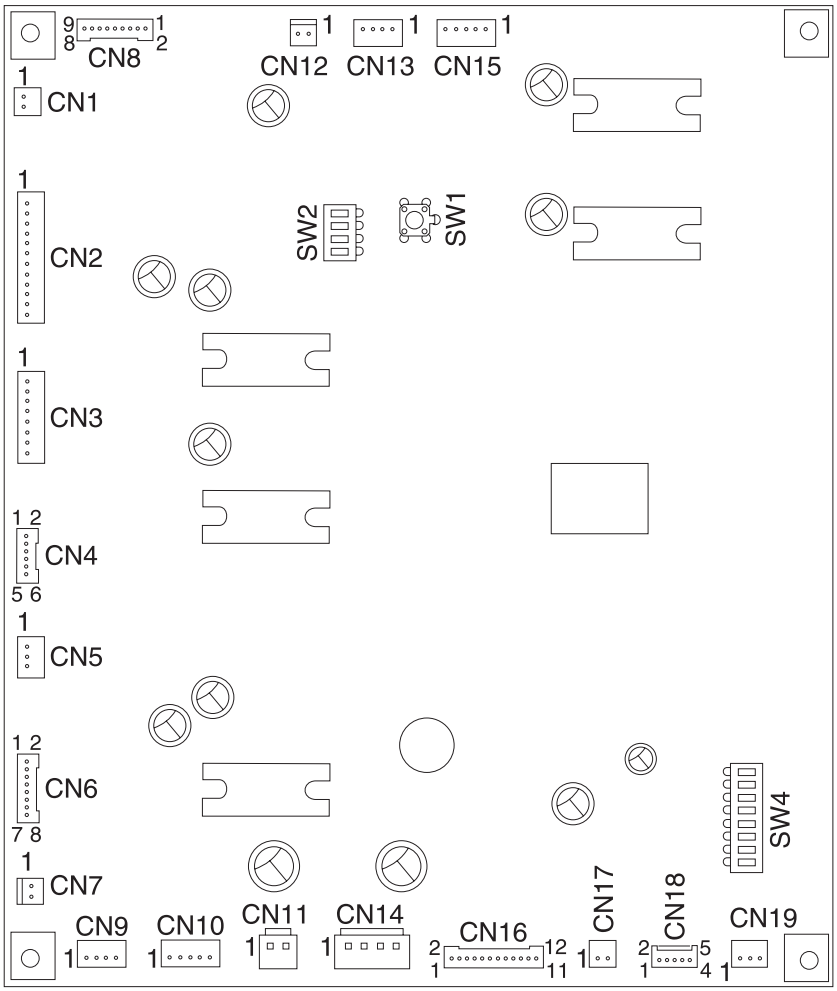


Connector	Pin no.	Signal
CN6 Sensors Side Door/Level/ Empty/ Registration Home/Pick Home	1	+5 V dc
	2	GND
	3	SIDE
	4	+5 V dc
	5	GND
	6	LEVEL
	7	+5 V dc
	8	GND
	9	EMPTY
	10	+5 V dc
	11	GND
	12	RHOME
	13	+5 V dc
	14	GND
	15	PHOME
CN7 Size Sensors/Near Empty	1	+5 V dc
	2	GND
	3	SIZE 0
	4	+5 V dc
	5	GND
	6	SIZE 1
	7	+5 V dc
	8	GND
	9	SIZE 2
	10	+5 V dc
	11	GND
	12	NE EMP
CN8 S1(Pick Sensor) S2(Registration Sensor)	1	+5 V dc
	2	S2
	3	GND
	4	+5 V dc
	5	S1
	6	GND

High-capacity output finisher (HCOF)

HCOF system board

For a more detailed diagram, see **“Finisher cables” on page 7-68**.



See "HCOF system board" on page 5-28.

Connector	Pin no	Signal
CN1 Drop Solenoid	1	SOL+
	2	SOL-
CN2 Stapler Assembly	1	MTR-
	2	MTR-
	3	N/C
	4	MTR+
	5	MTR+
	6	N/C
	7	No Cartridge
	8	Low Staple
	9	Home Position
	10	Unit Check
	11	Ground
	12	+5 V dc
CN3 Jogger Motor/ Accumulator Drive Motor	1	Jog A
	2	Jog *A
	3	Jog B
	4	Jog *B
	5	Bun A
	6	Bun *A
	7	Bun B
	8	Bun *B
CN4 Jogger Force Homing Sensor Accumulator Homing Sensor	1	+5 V dc
	2	Jog Home Pos Sensor
	3	Ground
	4	+5 V dc
	5	Accumulator Home Pos Sensor
	6	Ground
CN5 Chad Box Full	1	+5 V dc
	2	Chad Box Sensor
	3	Ground

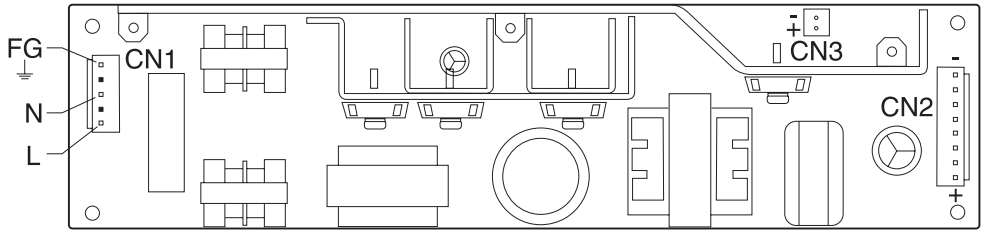
See "HCOF system board" on page 5-28.

Connector	Pin no	Signal
CN6 Tray Sensors Tray Limit/ Near Full/Output Tray Offset Sensor	1	Tray Limit SW
	2	Ground
	3	+5 V dc
	4	Tray Near Full Sensor
	5	Ground
	6	+5 V dc
	7	Tray Offset Posit Sensor
	8	Ground
CN7 Output Tray Offset Motor	1	MTR +
	2	MTR -
CN8 Tray Sensors Exit Timing/ Paper Surface Upper/ Paper Surface Lower	1	+5 V dc
	2	Exit Timing Sensor
	3	Ground
	4	+5 V dc
	5	Paper Surface Upper Sensor
	6	Ground
	7	+5 V dc
	8	Paper Surface Lower Sensor
	9	Ground
CN9 Punch Motor	1	A+
	2	A-
	3	B+
	4	B-
CN10 Inverter Solenoid/ Inverter Jam Sensor	1	+SOL
	2	-SOL
	3	+5 V dc
	4	Inverter Jam Sensor
	5	Ground
CN11 Front Door Switch	1	Switch +
	2	Switch -
CN12 Tray Elevation Motor	1	MTR +
	2	MTR -
CN13 Exit Motor	1	A+
	2	A-
	3	B+
	4	B-
	5	N/C

See "HCOF system board" on page 5-28.

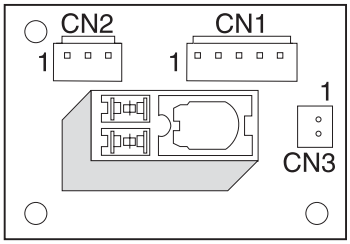
Connector	Pin no	Signal
CN14 Low Voltage Power Supply	1	+24 V dc
	2	+24 V dc
	3	P-Ground
	4	P-Ground
CN15 Enter Motor	1	A+
	2	A-
	3	B+
	4	B-
	5	N/C
CN16 Punch Motor Homing Sensor/ Drop Timing Sensor/ Inverter Timing Sensor/ Punch timing Sensor	1	+5 V dc
	2	Drop Timing Sensor
	3	Ground
	4	+5 V dc
	5	Punch Home Sensor
	6	Ground
	7	+5 V dc
	8	Punch Timing A Sensor
	9	Ground
	10	+5 V dc
	11	Punch Timing B Sensor
	12	Ground
CN17 Accumulator Solenoid	1	SOL+
	2	SOL -
CN18 Communications	1	TxD
	2	SG
	3	RxD
	4	SG
	5	FG
CN19 Printer Docking Switch	1	Switch - PTR Joint
	2	N/C
	3	Ground
CN20 CPU Prog	1	
	20	
CN21 Fan Connector - not used	1	+24 V dc
	2	Control
CN22 Main Fan	1	+24 V dc
	2	Control

HCOF LVPS board



Connector	Pin No	Signal
CN2 LVPS Out	1	+24 V dc
	2	+24 V dc
	3	+24 V dc
	4	+24 V dc
	5	Ground
	6	Ground
	7	Ground
	8	Ground
CN1	1	AC In from Relay
	2	Not used
	3	Not used
	4	Not used
	5	AC In from Relay

HCOF sub LVPS relay board

	Connector	Pin no	Signal
	CN1 AC Input	1	AC In
		2	Not used
		3	Not used
		4	Not used
		5	AC In
	CN2 LVPS	1	AC Out to LVPS
		2	Not used
		3	AC Out to LVPS
	CN3 Relay Board +5 V dc Switched	1	+5 V dc
		2	Ground

6. Preventive maintenance

This chapter describes procedures for printer preventive maintenance. Follow these recommendations to help prevent problems and maintain optimum performance.

Safety inspection guide

The purpose of this inspection guide is to aid you in identifying unsafe conditions.

If any unsafe conditions exist, find out how serious the hazard could be and if you can continue before you correct the hazard.

Check the following items:

- Damaged, missing, or altered parts, especially in the area of the On/Off switch and the power supply
- Damaged, missing, or altered covers, especially in the area of the top cover and the power supply cover
- Possible safety exposure from any non-Lexmark attachments

Lubrication specifications

Lubricate only when parts are replaced or as needed, not on a scheduled basis. Use of lubricants other than those specified can cause premature failure. Some unauthorized lubricants may chemically attack polycarbonate parts. Use IBM no. 10 oil, P/N 1280443 (Approved equivalents: Mobil DTE27, Shell Tellus 100, Fuchs Renolin MR30), IBM no. 23 grease (Approved equivalent Shell Darina 1), and grease, P/N 99A0394 to lubricate appropriate areas. Use Nyogel type 774 to lubricate the Fuser Drive Assembly and Nyogel 744 to lubricate the ITU and Cartridge Drive assemblies.

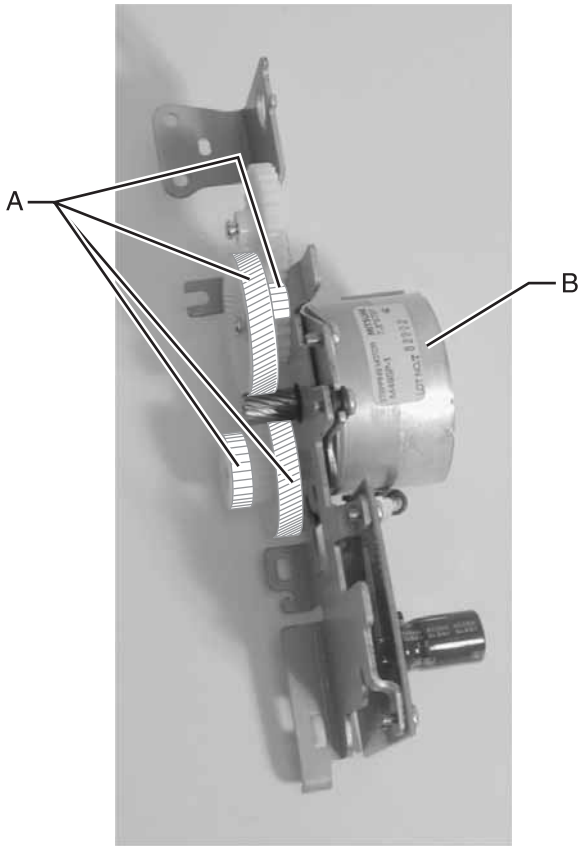
Lubrication for replacement motors

The motor drive FRUs contain the proper lubricant in the FRU. Only use the lubricant included.

Fuser drive assembly

Before installing the new fuser drive assembly:

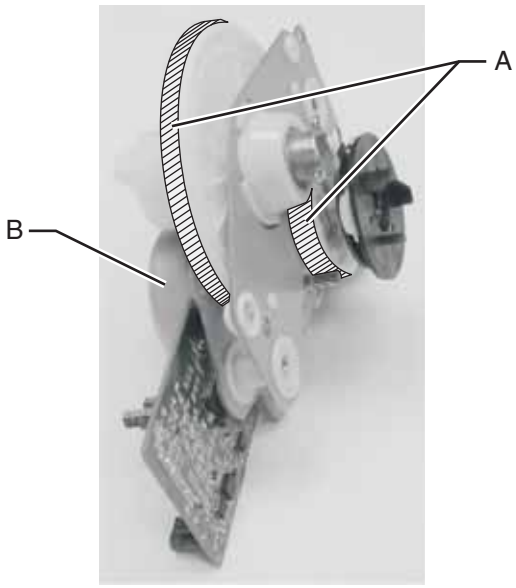
1. Apply a thin coating of Nyogel type 774 grease to the points identified (A) from the supplied packet.



2. Rotate the motor housing (B) to distribute evenly.

Cartridge drive assembly

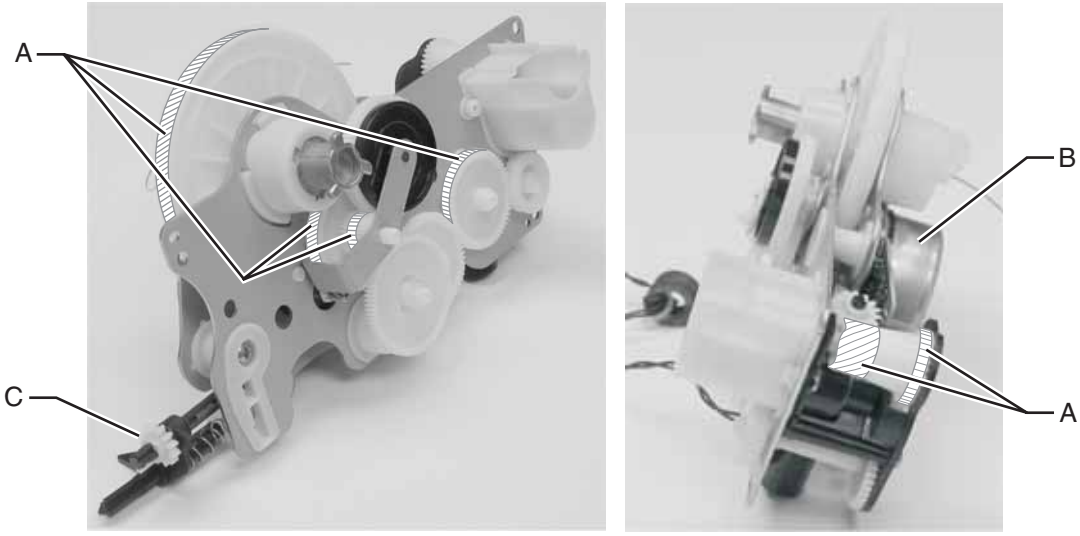
1. Apply a thin coating of Nyogel type 744 grease to the points identified (A) from the supplied packet.



2. Rotate the motor housing (B) to distribute evenly.

ITU drive assembly

1. Apply a thin coating of Nyogel type 744 grease to the points identified (A) from the supplied packet.



Note: Do not lubricate Gear 58 (C).

2. Rotate the motor housing (B) to distribute evenly.

Scheduled maintenance

The operator panel displays 80 Fuser Maintenance and 83 ITU Maintenance for scheduled maintenance.

80 Fuser Maintenance is displayed at each 200,000 copies when the fuser assembly needs to be replaced to maintain the print quality and reliability of the printer. The parts are available as a maintenance kit with the following part numbers:

Standard fusers

- 56P2910, Maintenance kit 115 V fuser
- 56P2911, Maintenance kit 220 V fuser
- 56P2912, Maintenance kit 100 V fuser

Web oiler fusers and web oiler replacements

The web oiler fuser has a life of approximately 200,0000 copies, but the web oiler life is about 100,000.

- 12G6524, Fuser assembly, web oiler 115 V 500W
- 12G6525, Fuser assembly, web oiler 220 V 500W
- 12G6499, Fuser assembly, web oiler 100 V 500W (Japan)
- 12G6545, Web oiler assembly

83 ITU Maintenance is displayed at each 120,000 copies when the ITU Assembly needs to be replaced to maintain the print quality and reliability of the printer. There are two assemblies, ITU assembly and Second Transfer Roll, in a maintenance kit. Both should be replaced at the same time. The parts are available as a maintenance kit with P/N 56P2848, ITU Maintenance Kit.

After replacing the kit, the fuser maintenance count must be reset to zero to clear the maintenance message.

84 Oiler Nearly Exhausted is displayed at each 100,000 copies when the Web Oiler Assembly is nearly exhausted. Go to **“Web Oiler Assembly” on page 7-9** for part number.

7. Parts catalog

How to use this parts catalog

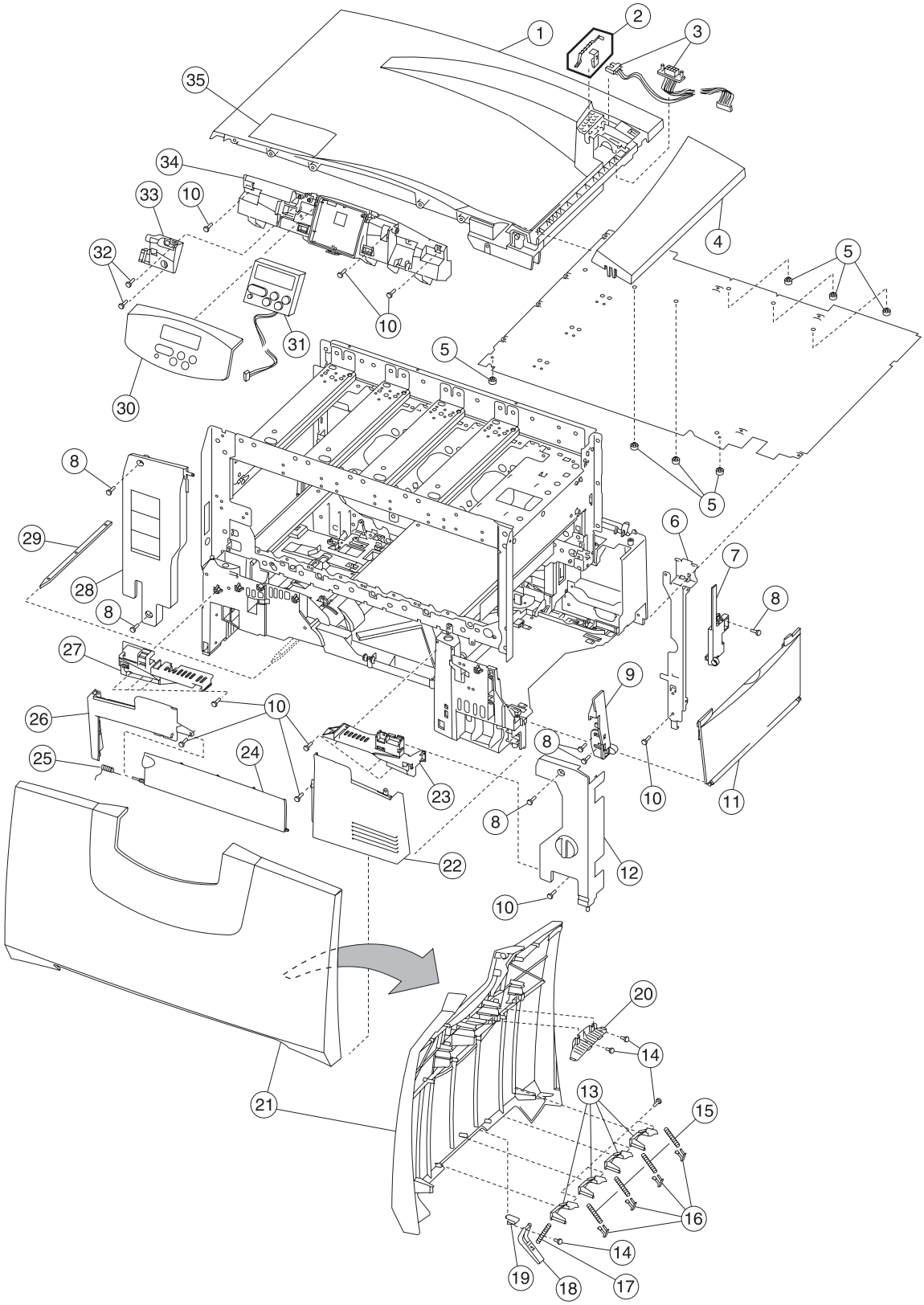
- SIMILAR ASSEMBLIES: If two assemblies contain a majority of identical parts, they are shown on the same list. Common parts are shown by one index number. Parts peculiar to one or the other of the assemblies are listed separately and identified by description.
- NS: (Not Shown) in the Asm-Index column indicates that the part is procurable but is not pictured in the illustration.

The Lexmark C76*x* (506*x*-4*xx*) laser printer is available in four models:

Lexmark C760	5060-401	Non-network
Lexmark C760	5060-402	Network
Lexmark C762	5060-421	Non-network
Lexmark C762	5060-422	Network

The parts catalog uses the following model designations to identify model specific FRUs: 401, 402, 421, and 422.

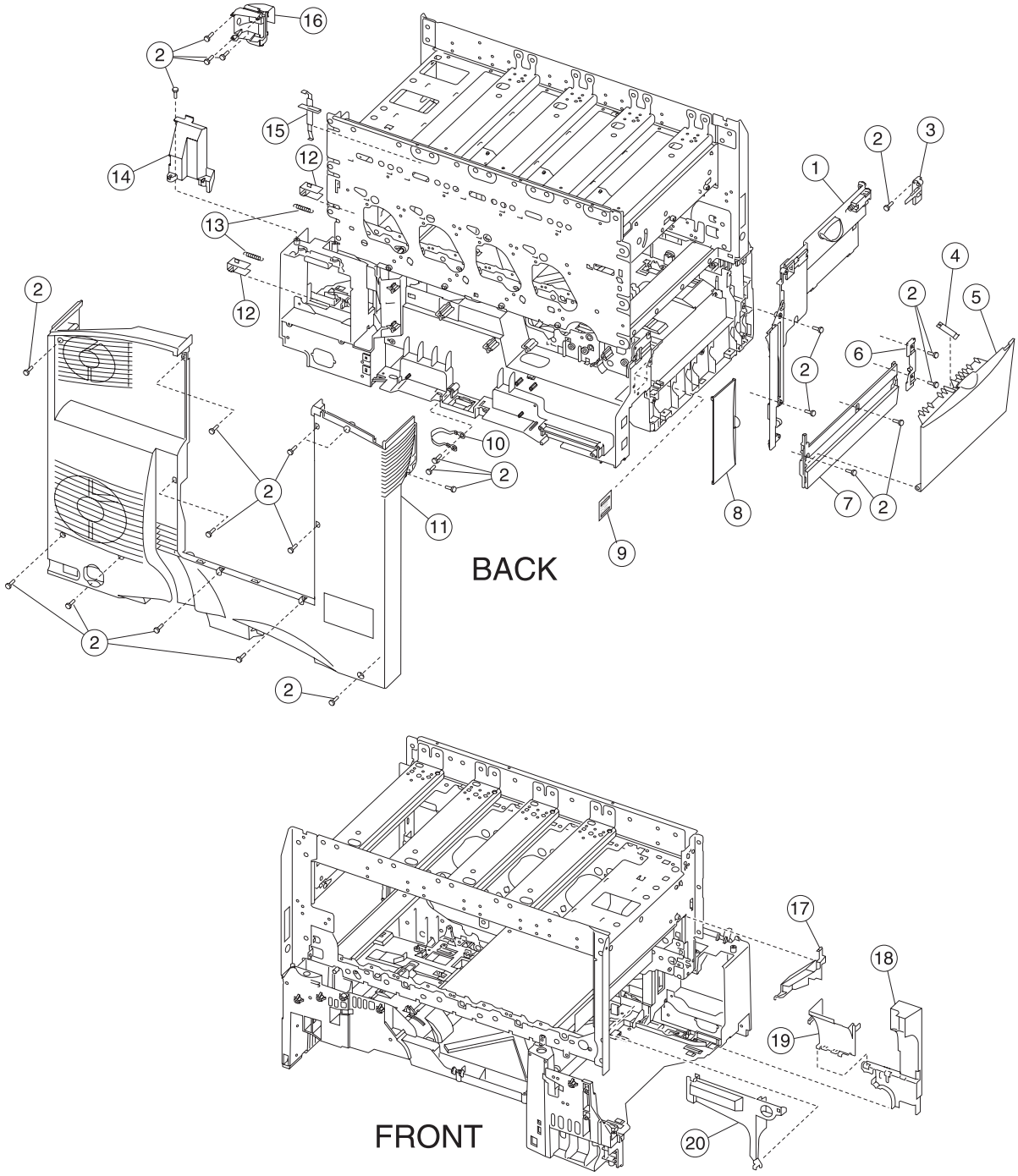
Assembly 1: Covers



Assembly 1: Covers

Asm-index	Part number	Units	Description
1–1	56P2821	1	Top cover assembly
2	56P3854	1	250 output flag and retainer
3	56P1539	1	Cable, options - stacker, including output bin sensor
4	56P2820	1	Redrive cap cover assembly
5	12G6380	7	Machine pad
6	12G6389	1	Top front support bracket
7	56P2813	1	Right rear cover
8		3	Screw, parts packet 12G6530
9	56P2810	1	Right front cover
10		12	Screw type 323, parts packet 12G6309
11	56P2837	1	Lower right door assembly
12	12G6405	1	Front right light shield cover
13	56P2216	4	Shield, door spring
14		7	Screw, parts packet 56P2220
15	12G6376	4	Spring, rear hold down
16	12G6347	4	Bellcrank, front hold down
17	56P2246	1	Detent spring
18	56P2218	1	Detent, front access door
19	56P2219	1	Housing, front access door
20	56P2816	1	Handle, front access door
21	56P2818	1	Front cover assembly
22	56P2811	1	Front lower right cover
23	56P2822	1	Front right handle cover assembly
24	56P2808	1	Paper path access door
25	12G6403	1	Spring, paper path access door
26	56P2807	1	Front lower left cover
27	56P2823	1	Front left handle cover assembly
28	12G6404	1	Left front light shield cover
29	56P1277	1	Paper tray guide
30	56P2817	1	Operator panel bezel with overlays, 421/422 only
30	56P2842	1	Operator panel bezel with overlays, 401/402 only
31	56P2844	1	Operator panel assembly
32		2	Screws, parts packet 12G6532
33	12G6399	1	Front upper pivot cover
34	12G6397	1	Front access door support
35	56P2489	1	Label, top paper jam, 421/422 only
35	56P2505	1	Label, top paper jam, 401/402 only

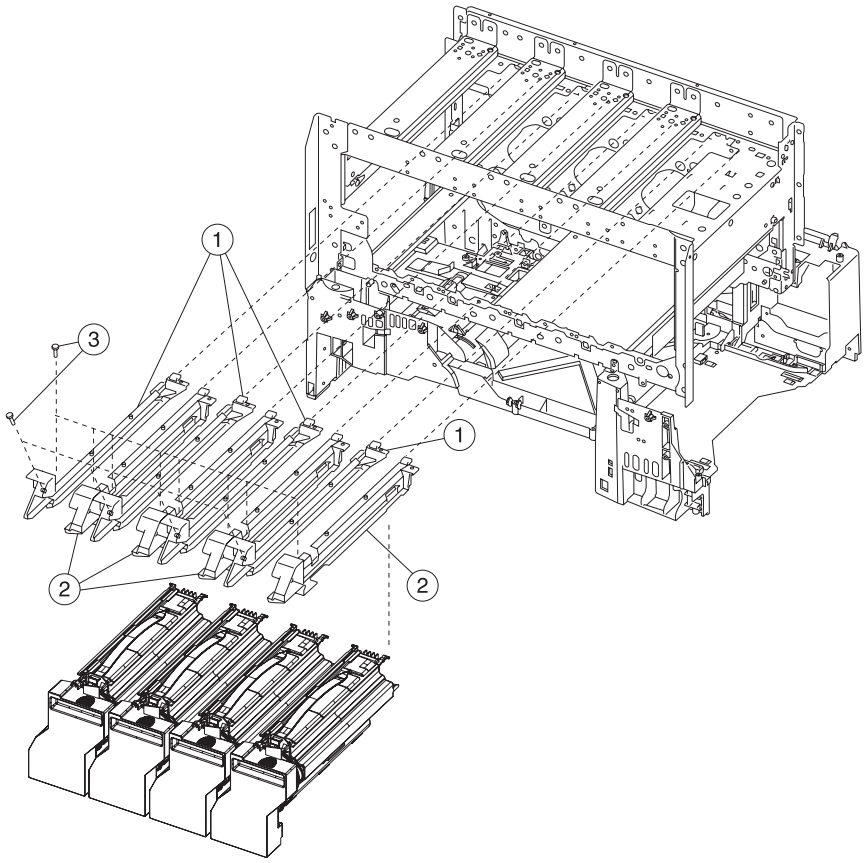
Assembly 1.1: Covers



Assembly 1.1: Covers

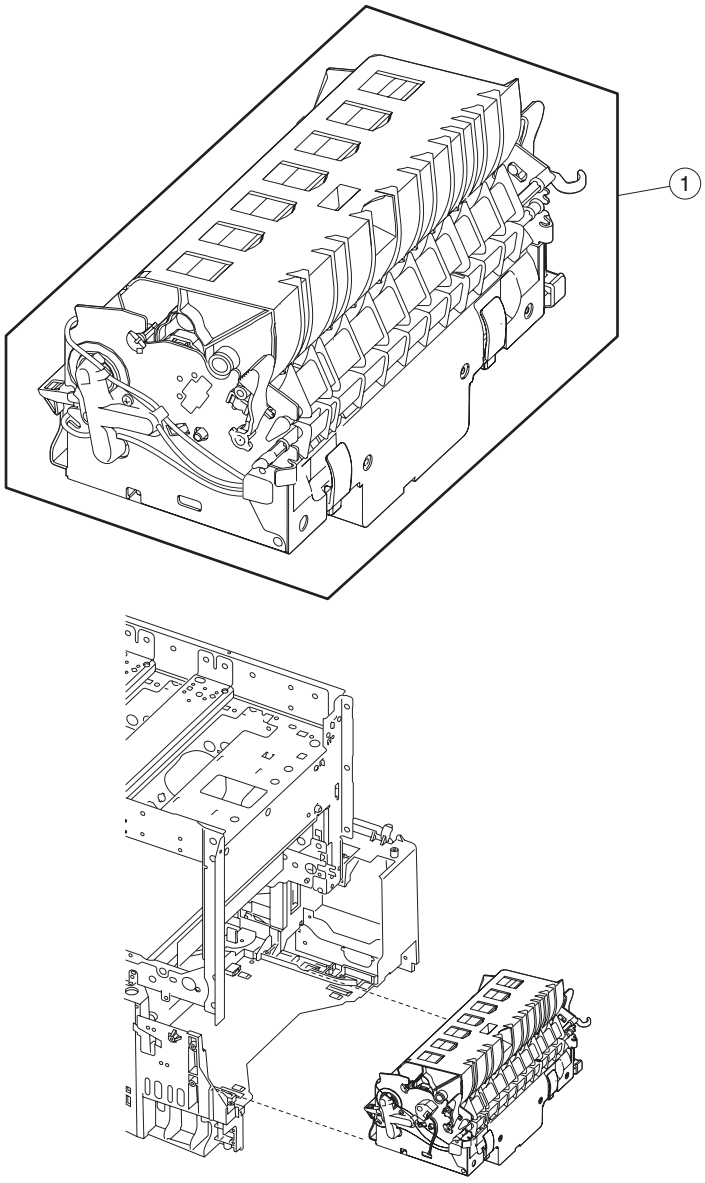
Asm-index	Part number	Units	Description
1.1–1	56P2819	1	Left upper cover assembly
2		21	Screw type 323, parts packet 12G6309
3	56P2809	1	Left upper pivot cover
4	12G6491	1	Jam access spring
5	56P2835	1	Lower access jam door assembly
6	56P2814	1	Left lower pivot cover
7	56P2812	1	Cover, left lower
8	56P2815	1	Waste container door
9	56P2800	1	Blank, TLI/SN label
10	12G6387	2	Ground cable
11	56P2824	1	Rear cover
12	12G6383	2	Fuser latch slide
13	12G6384	2	Fuser latch slide spring
14	12G6340	1	Fuser top duct
15	12G6386	1	Duplex actuator arm assembly
16	56P1500	1	RIP fan duct
17	12G6360	1	Fuser wall duct
18	12G6358	1	Fuser bottom duct
19	56P2290	1	Fuser left duct
20	56P2291	1	Redrive belt cover duct
NS	12G6510	6	Cable tie (6 in pack)
NS	12G6511	2	Cable tie pad

Assembly 2: Cartridge mounting



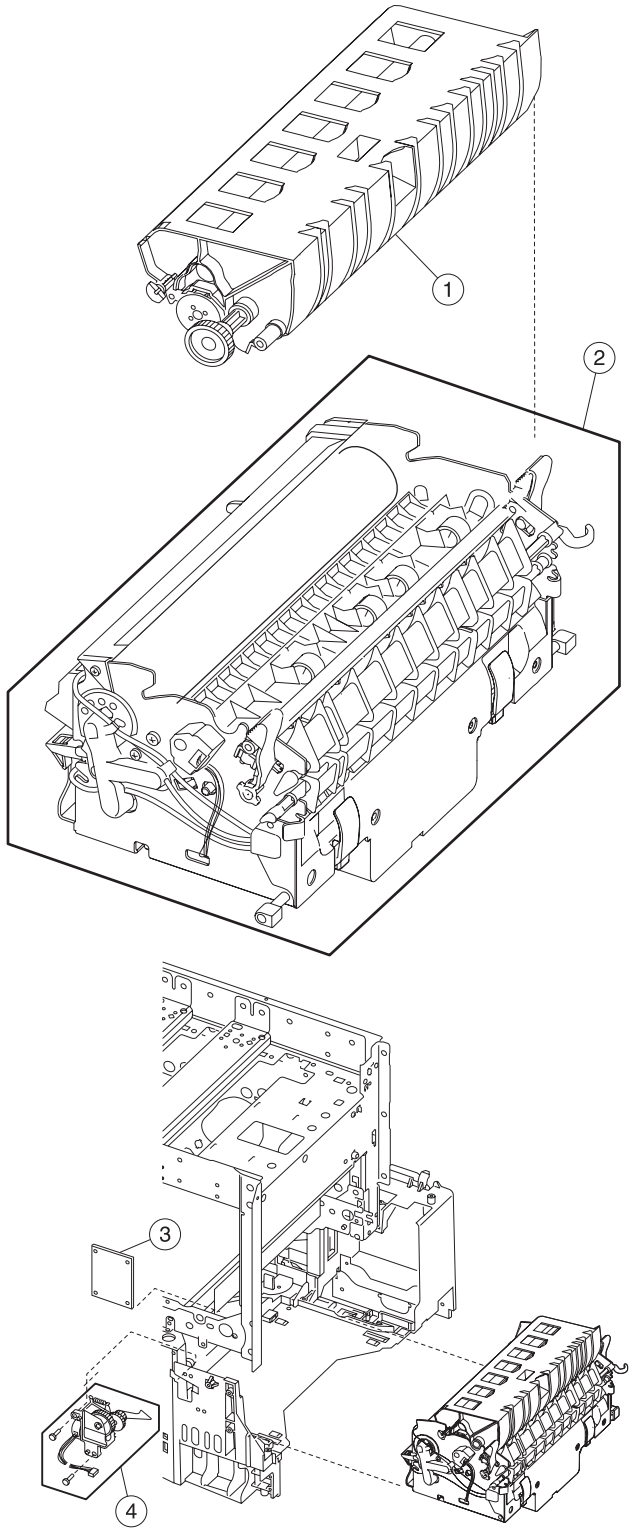
Asm-index	Part number	Units	Description
2–1	12G6535	4	Guide assembly, left side
2	12G6536	4	Guide assembly, right side
3		12	Screws, parts packet 12G6532

Assembly 3: Fuser assembly



Asm-index	Part number	Units	Description
3–1	56P2852	1	Fuser assembly, 220 V 500W
1	56P2851	1	Fuser assembly, 115 V 500W
1	56P2853	1	Fuser assembly, 100 V 500W (Japan)

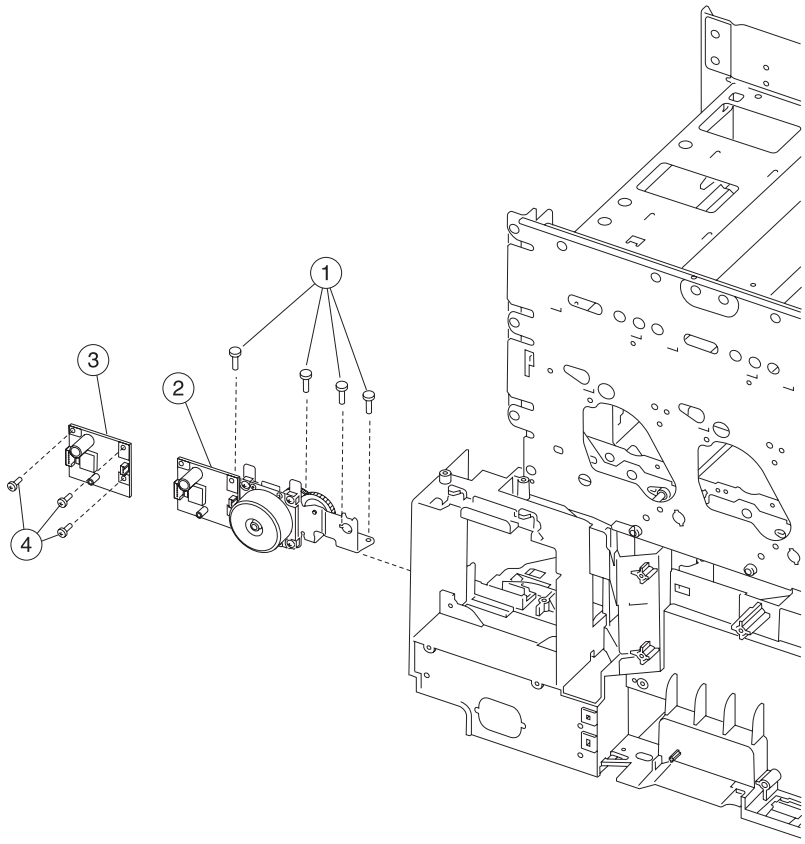
Assembly 3.1: Fuser (web oiler)



Assembly 3.1: Fuser (web oiler)

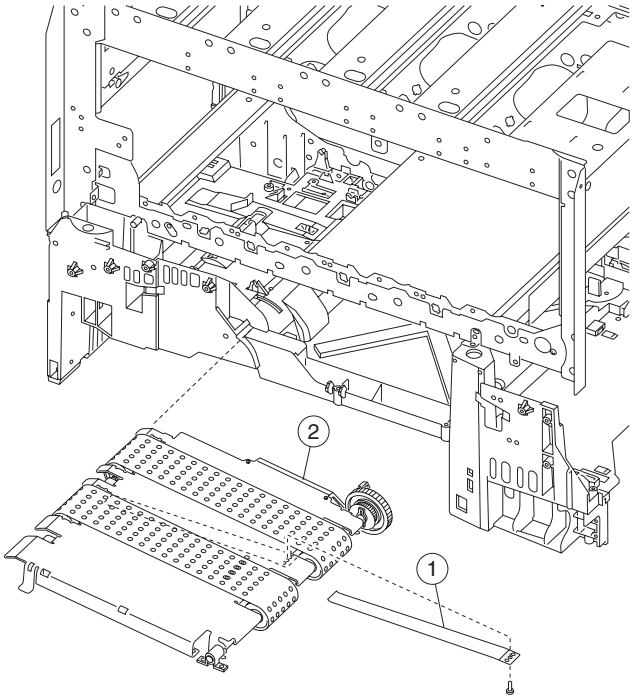
Asm-index	Part number	Units	Description
3.1–1	12G6545	1	Web oiler assembly
2	56P2856	1	Fuser assembly, web oiler 220 V 500W
2	56P2855	1	Fuser assembly, web oiler 115 V 500W
2	56P2854	1	Fuser assembly, web oiler 100 V 500W (Japan)
3	56P1558	1	Web oiler driver board assembly
4	12G6543	1	Web oiler index drive assembly

Assembly 4: Fuser drive



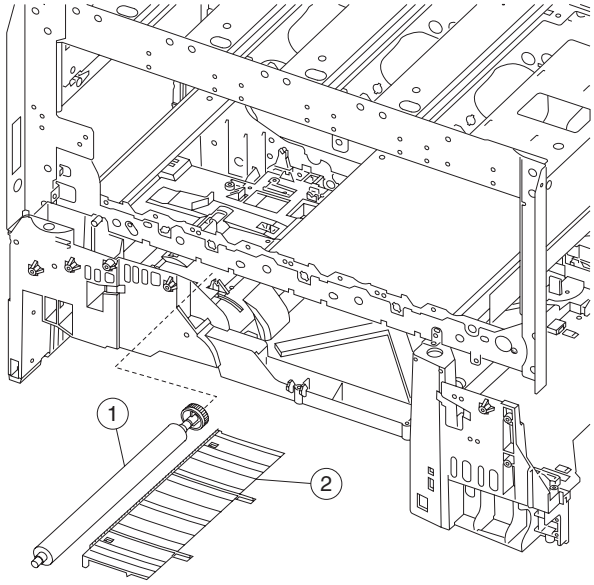
Asm-index	Part number	Units	Description
4–1		4	Screws type 323, parts packet 12G6309
2	56P2802	1	Fuser drive assembly
3	56P1563	1	Card assembly - fuser drive
4		3	Screws, parts packet 12G6531 (card assembly mounting)

Assembly 5: Vacuum transport belt (VTB) assembly



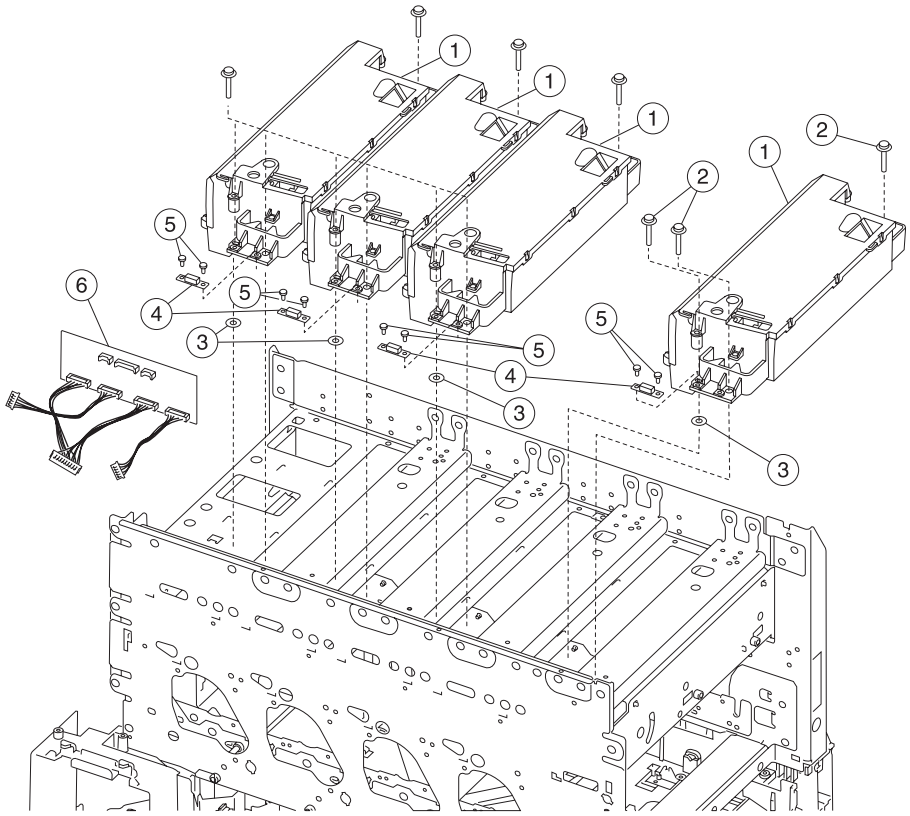
Asm-index	Part number	Units	Description
5–1	12G6491	1	Jam access spring
2	12G6489	1	Vacuum transport belt assembly

Assembly 6: Transfer



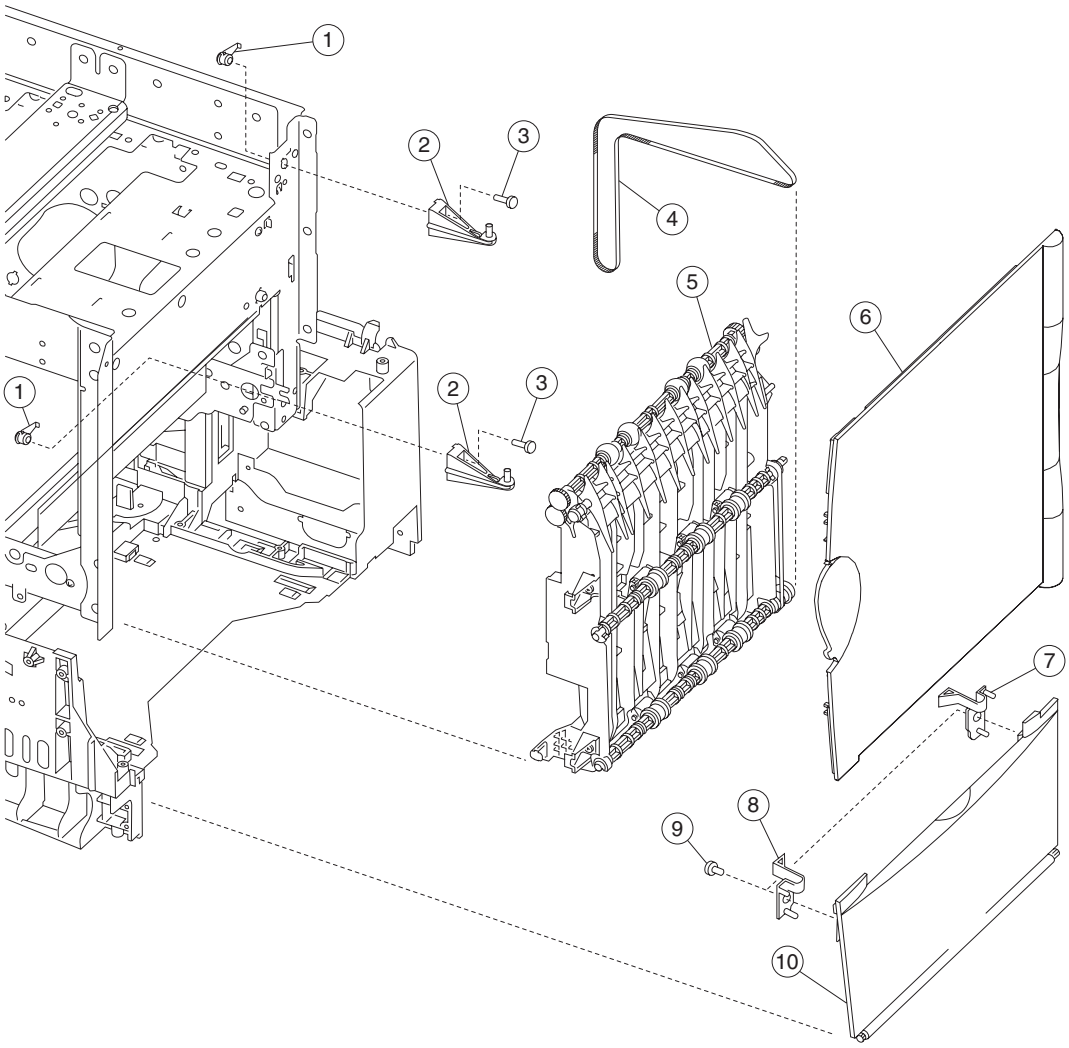
Asm-index	Part number	Units	Description
6–1	12G6303	1	Second transfer roll
2	12G6488	1	Transfer plate assembly

Assembly 7: Printheads



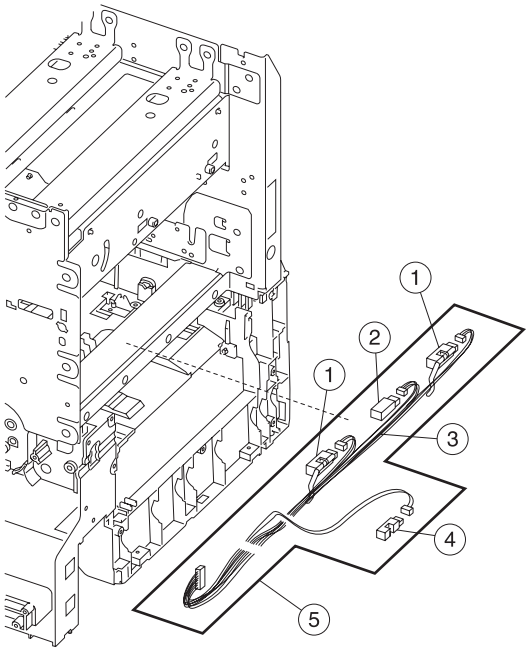
Asm-index	Part number	Units	Description
7–1	56P2801	4	Printhead assembly (do not replace more than one printhead at a time)
2		12	Screw, parts packet 12G6534
3	56P2292	4	Printhead spacer
4	56P1198	4	Thermistor card
5		8	Screw, parts packet 12G6533
6	56P2296	1	Card assembly, printhead diagnostic aid

Assembly 8: Paper feed output (redrive)



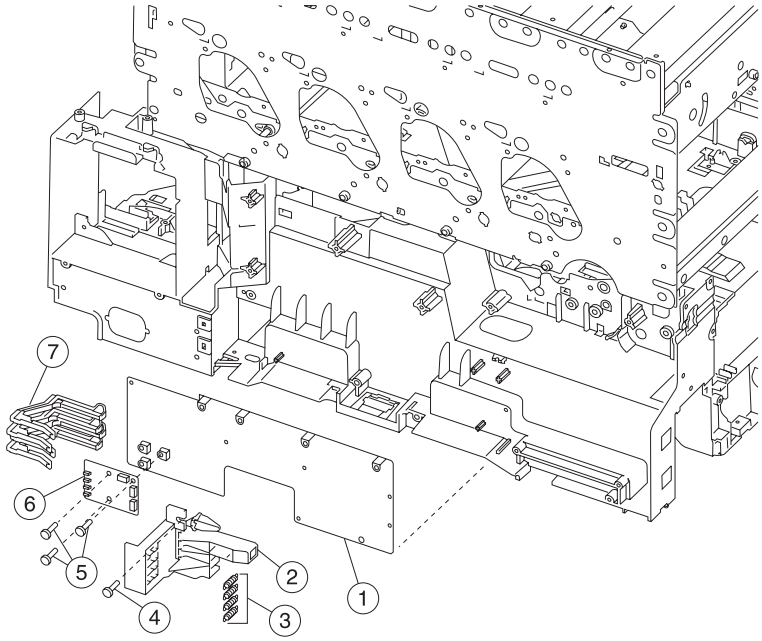
Asm-index	Part number	Units	Description
8–1	56P0167	8	Anchor, bracket mounting
2	12G6493	2	Upper door hinge
3		2	Screw, parts packet 12G6533
4	56P2204	1	Redrive belt 300 T
5	12G6492	1	Redrive assembly
6	56P2836	1	Redrive door assembly
7	56P1532	1	Lower right door latch
8	56P1533	1	Lower left door latch
9		2	Screw, parts packet 12G6530
10	56P2837	1	Lower right door assembly

Assembly 9: Paper feed input



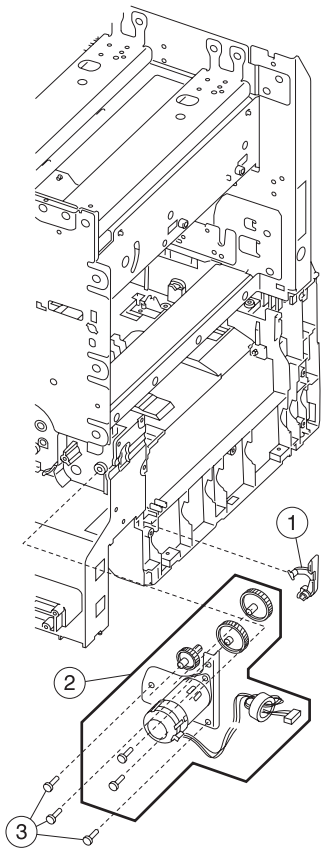
Asm-index	Part number	Units	Description
9–1	56P2101	2	Sensor, S2/NMS
2	56P2175	1	Sensor, transparency reflective (XPAR)
3	56P2174	1	Cable, S2/XPAR/NMS/MPF (without sensors)
4	56P1524	1	Paper out sensor MPF
5	56P2100	1	Cable assembly, S2/XPAR/NMS/MPF (with sensors)

Assembly 10: Paper size sensing



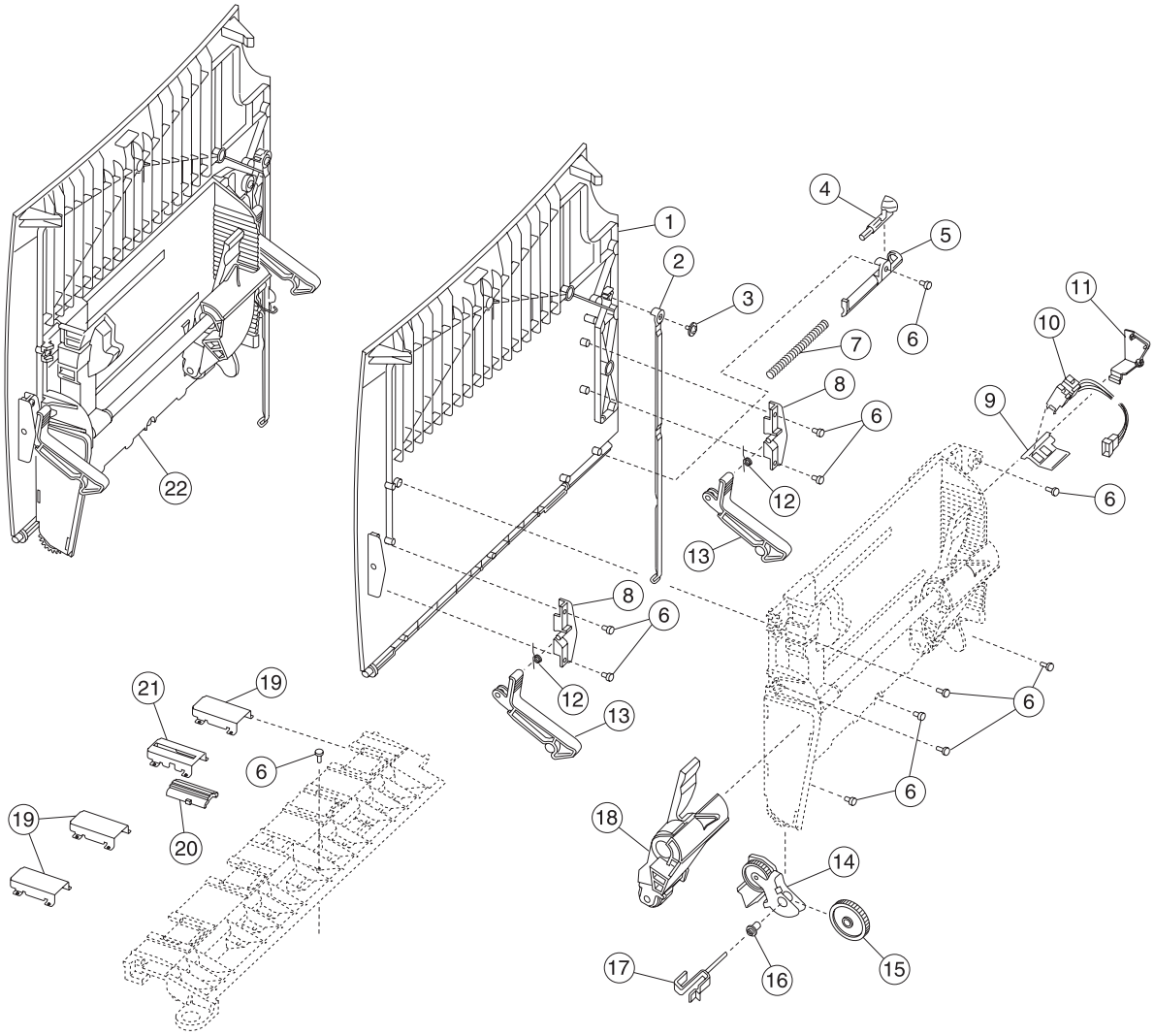
Asm-index	Part number	Units	Description
10–1	56P1564	1	System board shield support with clips
2	12G6468	1	Paper size sensing bracket
3	12G6467	4	Paper size sensing spring
4		1	Screw, paper size sensing assembly mounting, parts packet 12G6531
5		3	Screw, paper size sensing card mounting, parts packet 12G6531
6	56P2845	1	US media size sensing card assembly, 421/422 only
6	56P2895	1	Non-US media size sensing card assembly, 421/422 only
6	56P2846	1	US media size sensing card assembly, 401/402 only
6	56P2896	1	Non-US media size sensing card assembly, 401/402 only
7	12G6466	4	Paper size sensing link

Assembly 11: Paper feed transport



Asm-index	Part number	Units	Description
11–1	56P2194		Nip relief handle
2	56P2857	1	Kit, registration motor assembly, including - Staging motor assembly - Gear, reference plate - Gear, staging idler - Gear, staging reduction - Motor screws
3		3	Screw type 323, parts packet 12G6309

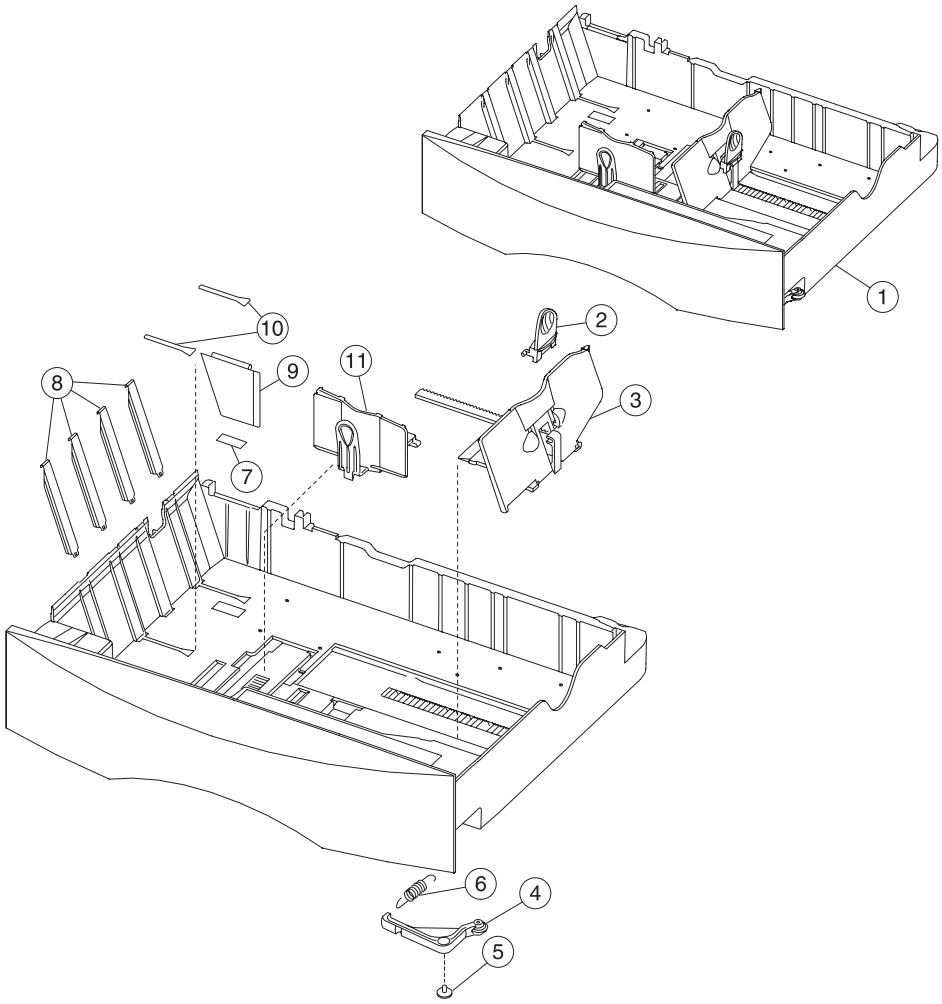
Assembly 12: Multipurpose feeder (MPF)



Assembly 12: Multipurpose feeder (MPF)

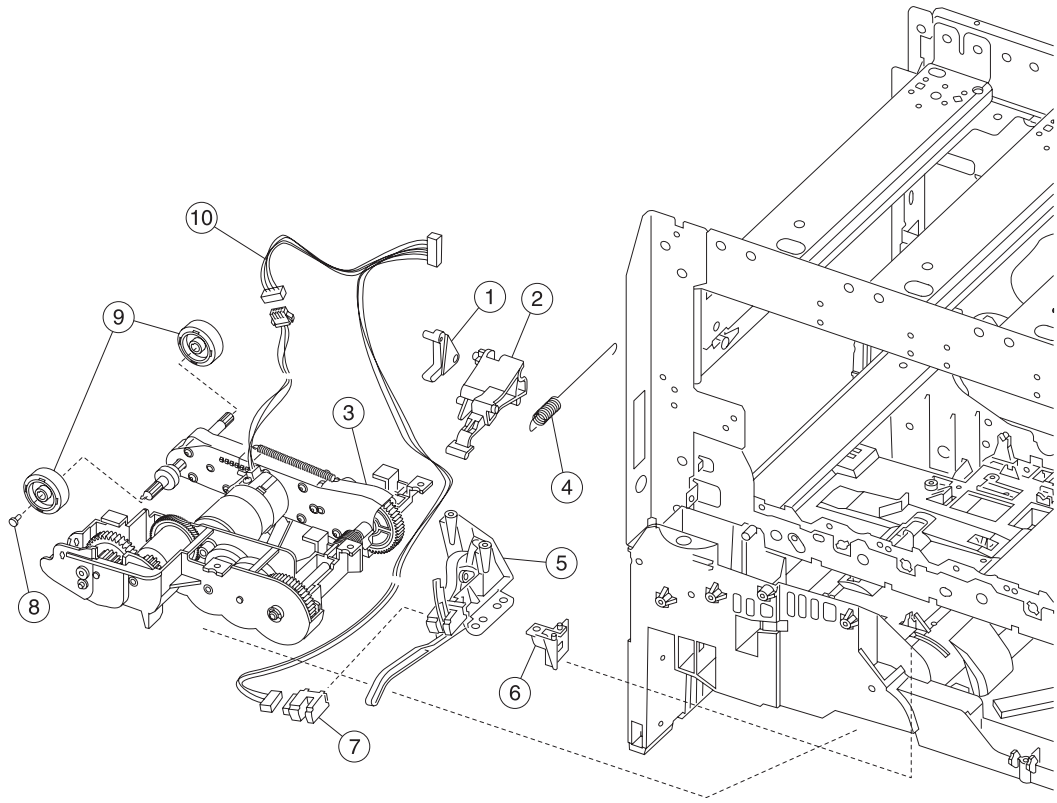
Asm-index	Part number	Units	Description
12–1	56P2825	1	MP feeder door cover
2	12G6460	1	Door hinge restraint
3		1	Screw, parts packet 12G6533
4	56P2826	1	Frame bias latch
5	56P2827	1	Frame bias latch cover
6		11	Screw, parts packet 12G6533
7	12G6454	1	Frame bias spring
8	56P2831	2	MPF support bracket cover
9	56P2828	1	Sensor mount bracket
10	56P1524	1	Paper out sensor MPF
11	56P2829	1	MPF cable cover
12	12G6458	2	MPF support bracket spring
13	56P2833	2	MPF support bracket
14	12G6462	1	MPF bracket assembly
15	12G6463	1	MPF drive gear
16	12G6465	1	MPF drive gear bushing
17	12G6464	1	MPF drive gear shaft
18	56P2832	1	MPF autocompensator pick assembly
19	12G6354	3	Rib housing
20	12G6447	1	Friction buckler
21	12G6346	1	Buckler housing
22	56P2830	1	MPF door assembly

Assembly 13: 500-Sheet integrated tray



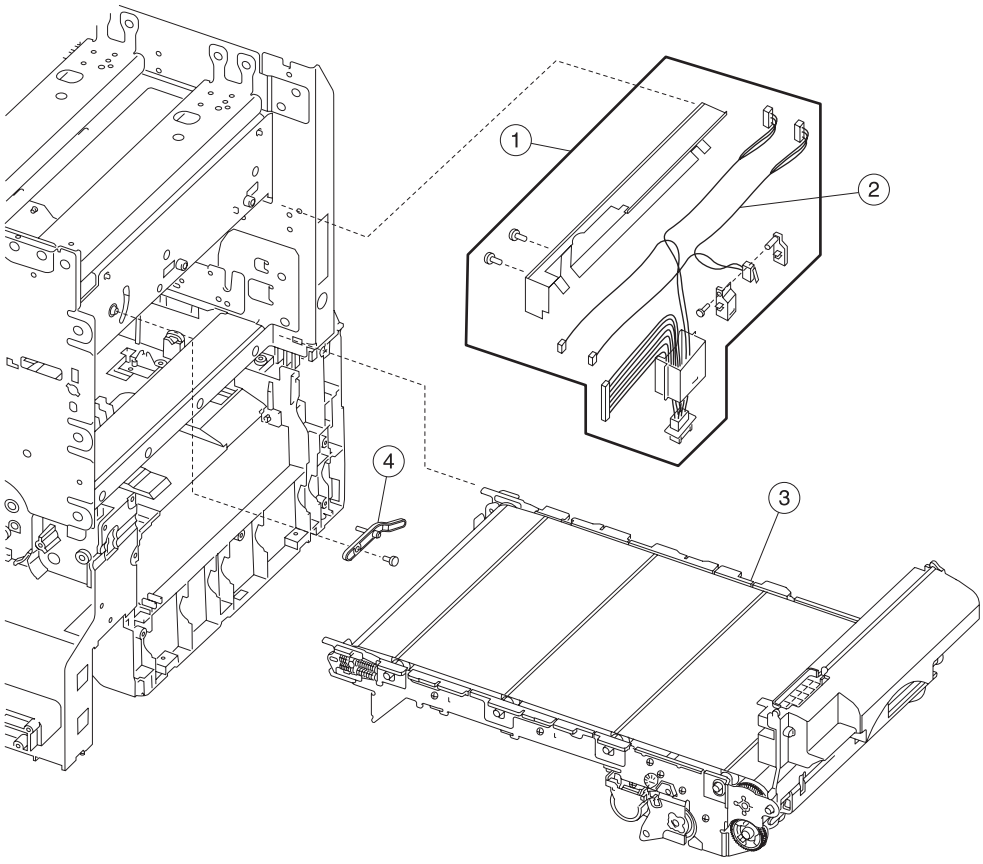
Asm-index	Part number	Units	Description
13–1	56P2834	1	500-Sheet tray assembly
2	12G6419	1	Back restraint latch
3	12G6418	1	Back restraint
4	12G6425	1	Tray bias bellcrank assembly
5		1	Screw, parts packet 12G6533
6	12G6426	1	Tray bias spring
7	12G6568	1	Reflector label
8	12G6421	4	Wear strip
9	12G6420	1	Tray wear clip
10	56P1504	2	Restraint pad
11	12G6417	1	Side restraint

Assembly 14: Autocompensator assembly



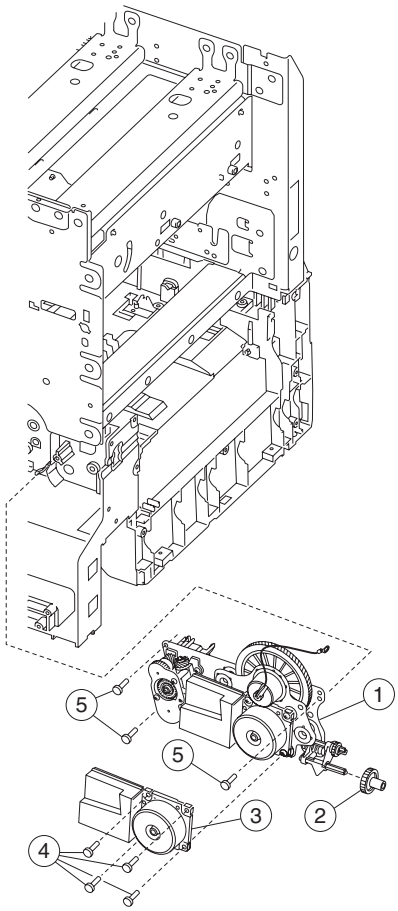
Asm-index	Part number	Units	Description
14–1	12G6471	1	Tray interlock bellcrank
2	12G6558	1	Pick arm lift bellcrank
3	56P1526	1	Pick assembly 500-tray
4	12G6557	1	Bellcrank lift spring
5	12G6476	1	Paper level sensing assembly
6	12G6472	1	Tray interlock bracket
7	12G6461	1	Sensor, paper out/low
8		1	Screw, pick roll mounting, parts packet 12G6533
9	99A0070	2	Pick roll tires (2 per pack)
10	56P1542		Cable, pick motor extension and paper level sensing

Assembly 15: ITU assembly



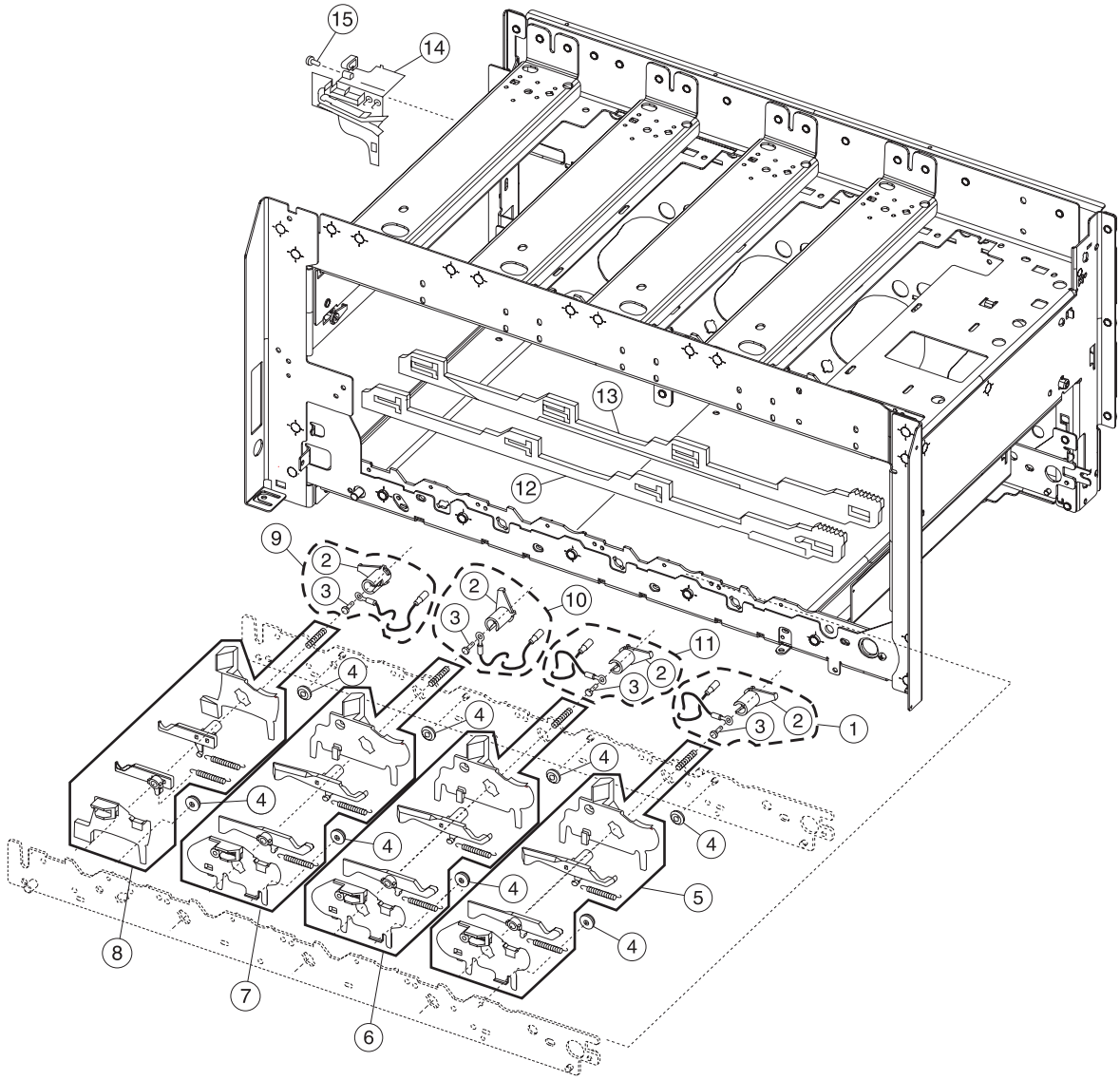
Asm-index	Part number	Units	Description
15-1	56P1513	1	ITU light shield assembly (autoconnect)
2	56P1540	1	Printhead interlock cable assembly
3	56P2847	1	ITU assembly
4	56P1572	1	ITU coupler retract lever

Assembly 16: ITU drive assembly



Asm-index	Part number	Units	Description
16–1	56P2806	1	ITU drive motor assembly
2	12G6385	1	#58 gear
3	56P2805	1	ITU motor drive
4		4	Screw type 323, parts packet 12G6309 (ITU drive motor to ITU drive assembly)
5		3	Screw type 323, parts packet 12G6309 (ITU drive assembly lower frame)

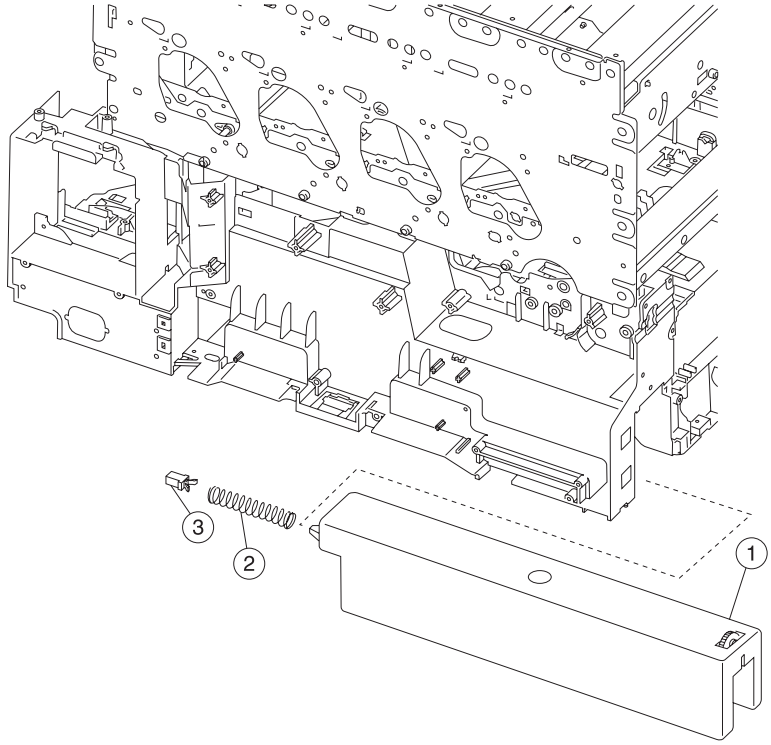
Assembly 17: ITU loading



Assembly 17: ITU loading

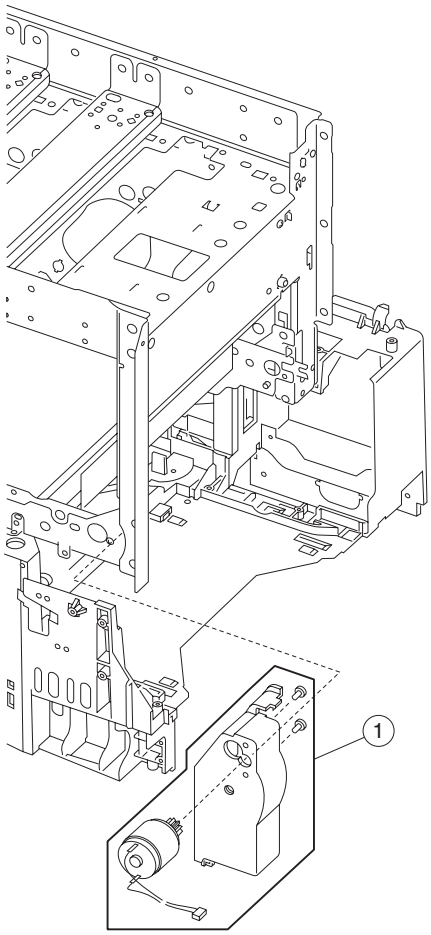
Asm-index	Part number	Units	Description
17–1	56P1568	1	Yellow terminal contact assembly
2	12G6442	4	Terminal, contact spring
3		4	Screw, parts packet 12G6533
4	12G6353	8	Cartridge support roller
5	56P1495	1	Parts packet, ITU loading - yellow, including - Yellow BOR spring - Rear block guide - Rear transfer bellcrank - Front V block guide - Front transfer bellcrank - High voltage contact spring
6	56P1496	1	Parts packet, ITU loading - cyan, including - Cyan BOR spring - Rear V block guide - Rear transfer bellcrank - Front V block guide - Front transfer bellcrank - High voltage contact spring
7	56P1497	1	Parts packet, ITU loading - magenta, including - Magenta BOR spring - Rear V block guide - Rear transfer bellcrank - Front V block guide - Front transfer bellcrank - High voltage contact spring
8	56P1498	1	Parts packet, ITU loading - black, including - Black BOR spring - Rear block guide - Rear transfer bellcrank - Front V block guide - Front transfer bellcrank - High voltage contact spring
9	56P1565	1	Black terminal contact assembly
10	56P1566	1	Magenta terminal contact assembly
11	56P1567	1	Cyan terminal contact assembly
12	56P0594	1	Cam, BOR front
13	56P0595	1	Cam, BOR rear
14	56P0560	1	Rear ITU guide
15		1	Screw type 323, parts packet 12G6309

Assembly 18: Waste toner



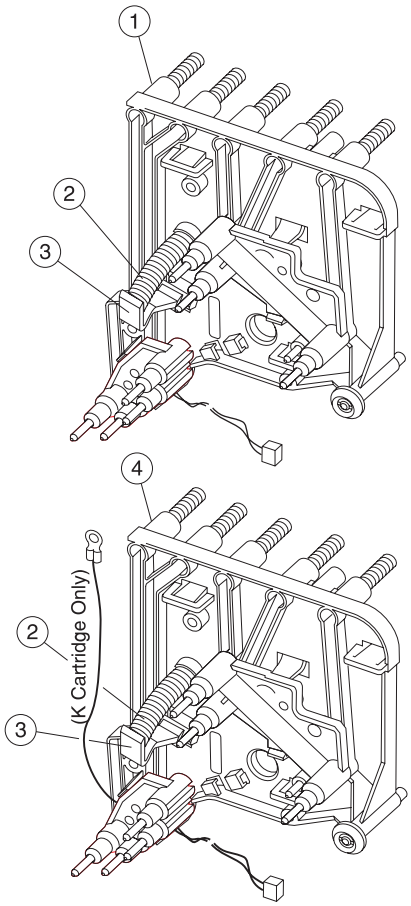
Asm-index	Part number	Units	Description
18–1	12G6494	1	Waste toner container
2	12G6470	1	Waste container latch spring
3	12G6469	1	Waste container latch

Assembly 19: BOR drive assembly



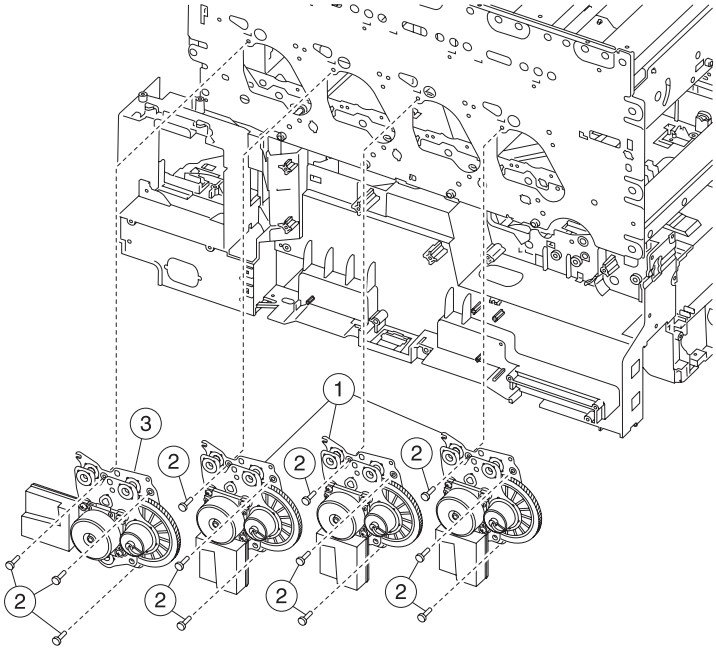
Asm-index	Part number	Units	Description
19–1	56P1536	1	Motor assembly, Lift/BOR

Assembly 20: Cartridge contact assembly



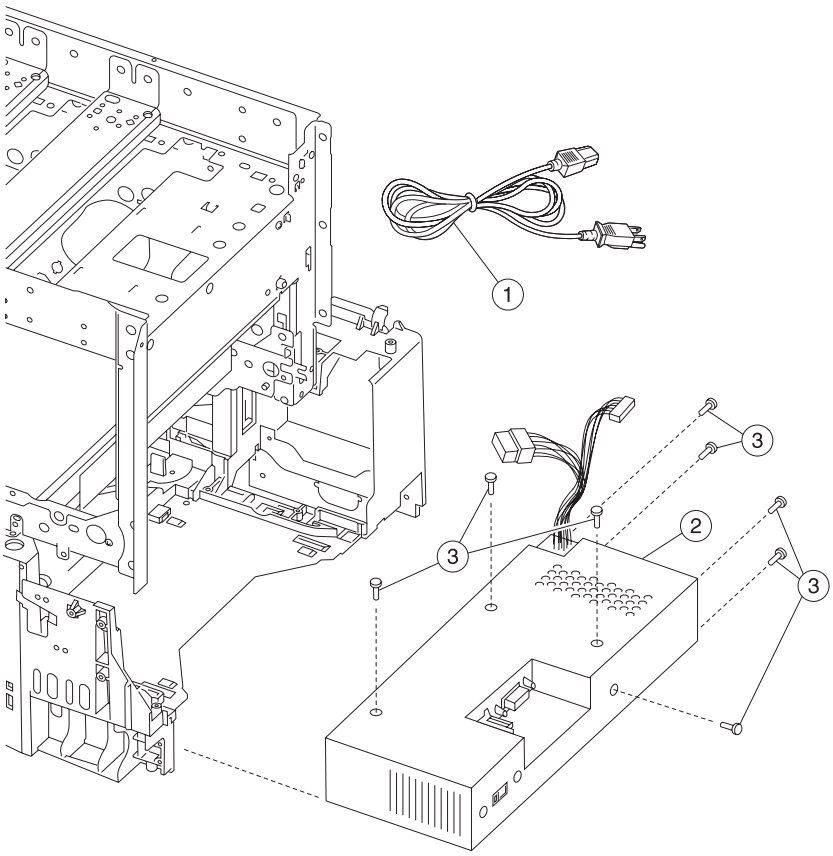
Asm-index	Part number	Units	Description
20–1	56P0310	3	Cartridge contact assembly, complete, cyan/magenta/yellow
2	12G6376	4	Spring, rear hold down
3	12G6377	4	Rear hold down bellcrank
4	56P1561	1	Cartridge contact assembly, complete black

Assembly 21: Cartridge drive assembly



Asm-index	Part number	Units	Description
21–1	56P2803	3	Cartridge drive assembly, cyan/magenta/black (one drive assembly per package)
2		12	Screw, parts packet 12G6530
3	56P2804	1	Cartridge drive assembly, yellow

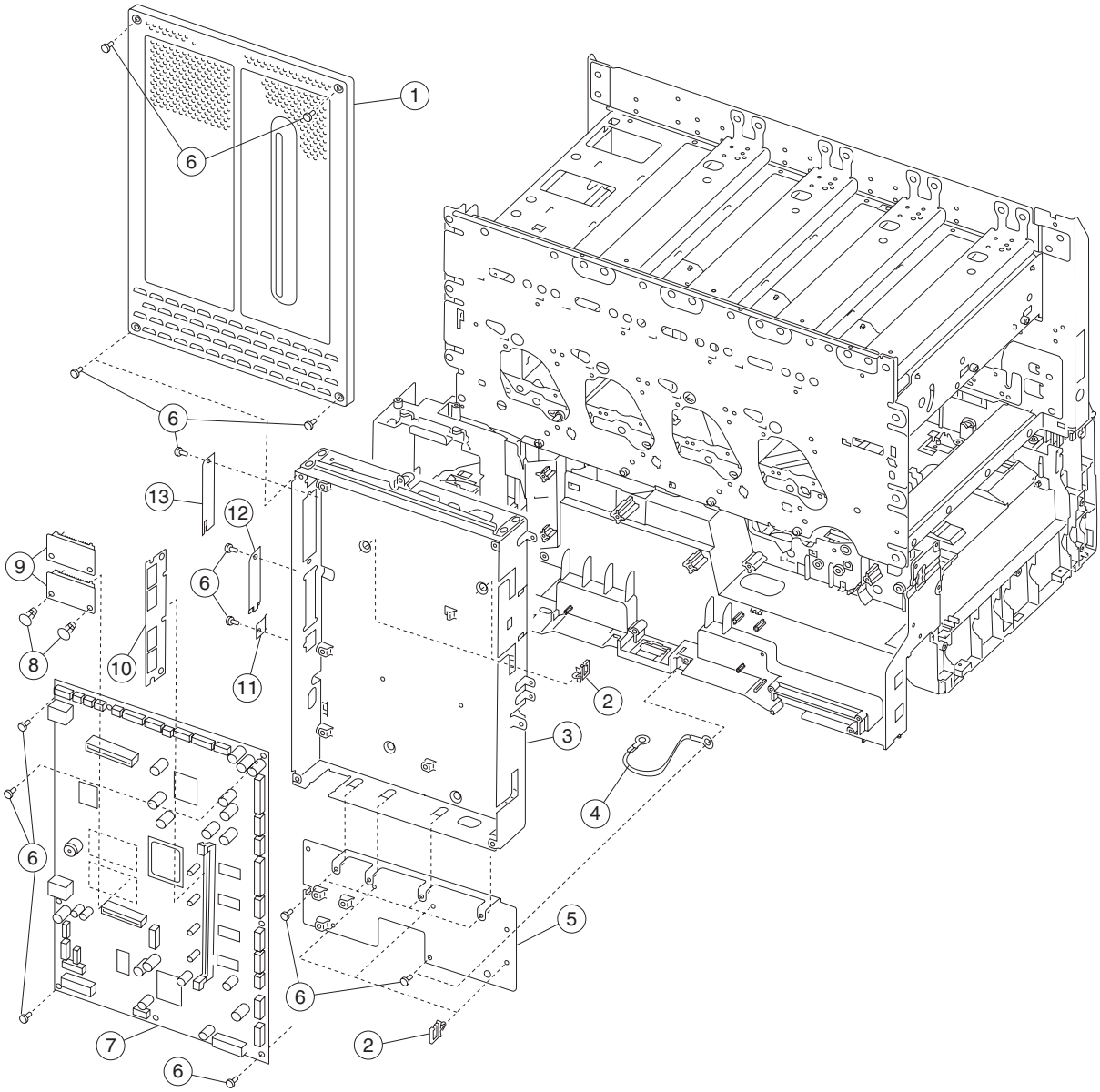
Assembly 22: Electronics



Assembly 22: Electronics

Asm-index	Part number	Units	Description
22–1	11A9095	1	Power cord set (LV)—U.S., Asia Pacific (English), Canada, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Puerto Rico, Saudi Arabia, Taiwan, Venezuela, Virgin Islands
1	1339553	1	Power cord set (LV)—Japan
1	43H5544	1	Power cord set (HV)—PRC
1	1339517	1	Power cord set (HV)—Bolivia, Peru
1	1339544	1	Power cord set (HV)—Argentina
1	1339529	1	Power cord set —African countries - Bluemark, Austria, Belgium, Bulgaria, Catalan, CIS, Croatia, Finland, France, Germany, Greece, Hungary, Italy, Macedonia, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovenia, Spain, Sweden, Turkey, Yugoslavia (Serbia and Montenegro)
1	1339530	1	Power cord set (HV)—Israel
1	1339531	1	Power cord set (HV)—Switzerland
1	1339532	1	Power cord set—Botswana, Lesotho, Namibia, South Africa
1	1339524	1	Power cord set (HV)—Chile, Uruguay
1	1339534	1	Power cord set—Denmark
1	1339550	1	Power cord set (LV)—Brazil
1	1339520	1	Power cord set (HV)—Paraguay
1	1339528	1	Power cord set (HV)—Ireland, UK
2	56P1514	1	LVPS, 115V/230V switchable
3		8	Screw, parts packet 12G6540

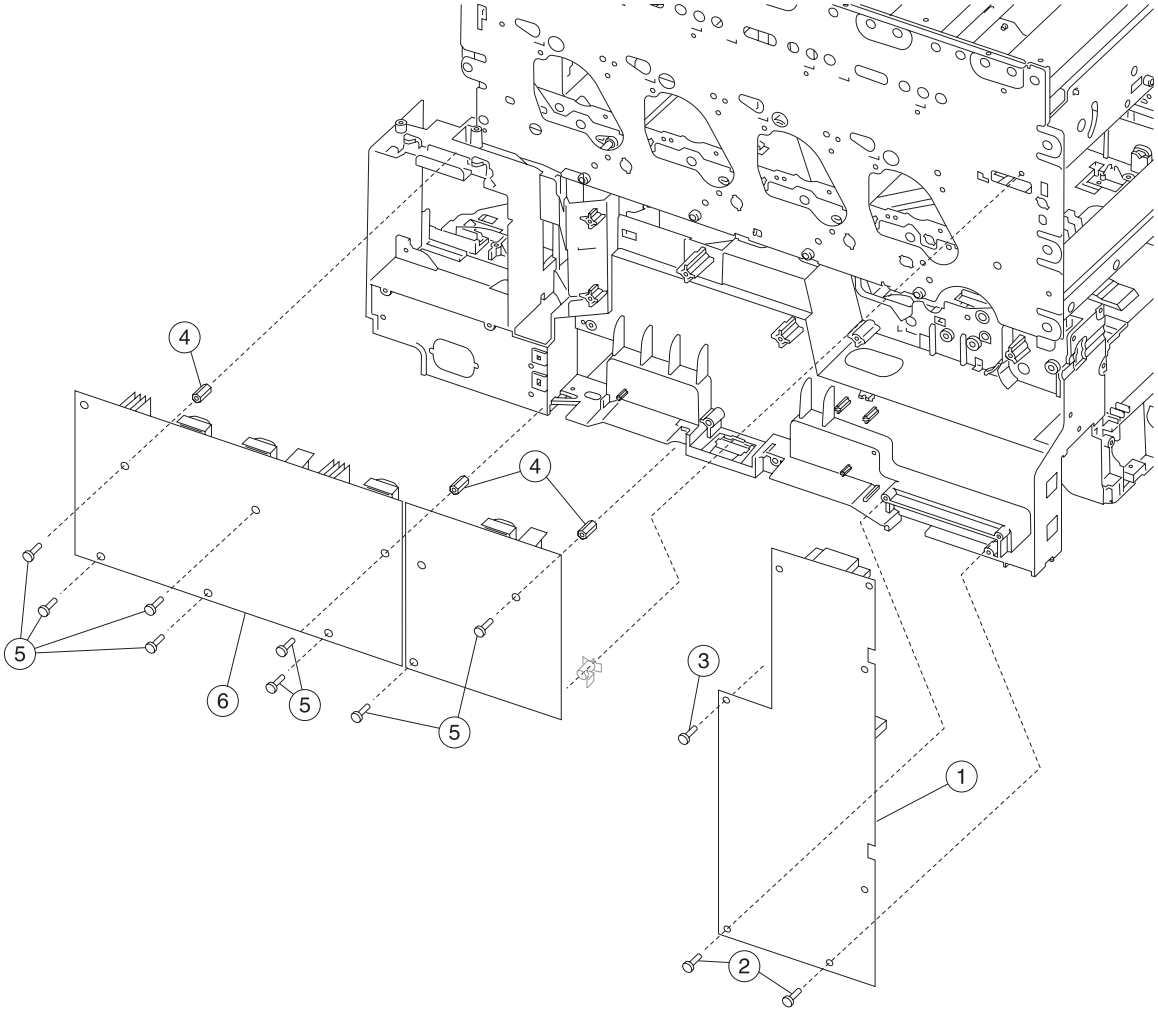
Assembly 22.1: Electronics



Assembly 22.1: Electronics

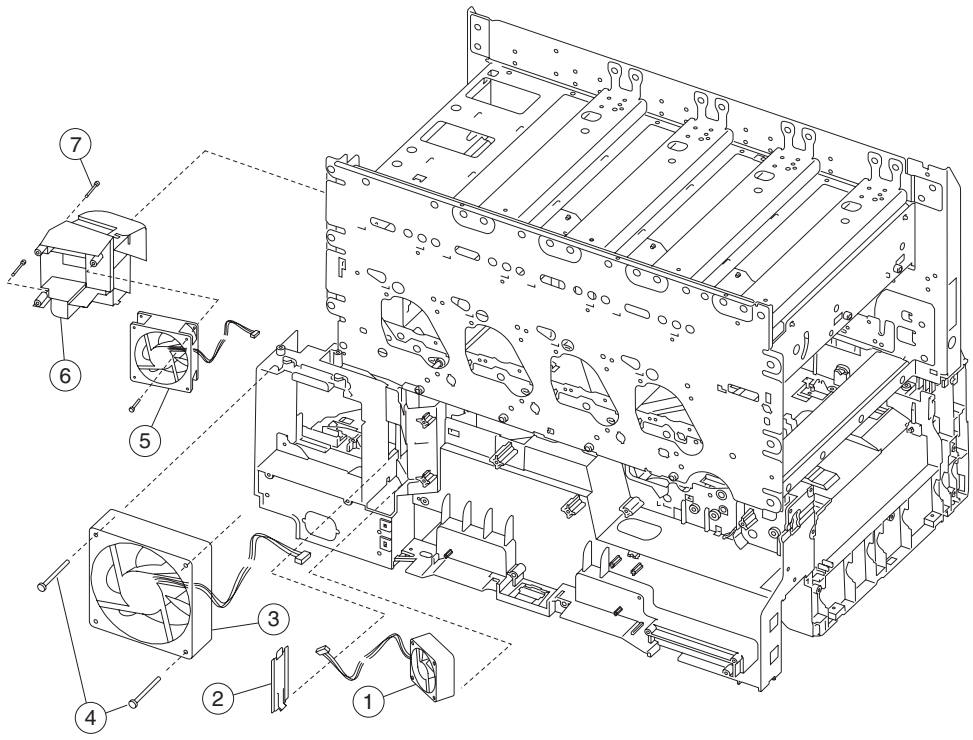
Asm-index	Part number	Units	Description
22.1–1	56P1517	1	System board outer shield
2	56P1547	5	Cable clip
3	56P1518	1	System board shield assembly with clips
4	56P1545	1	Cable, ground
5	56P1564	1	System board shield support with clips
6		21	Screw, parts packet 12G6531
7	56P2841	1	System board, network, 402/422 only
7	56P2840	1	System board, non-network, 401/421 only
8	12G6335	2	Stand off
9	56P2297	1	Card assembly, bar code
10	56P9910	1	128MB SDRAM card assembly
10	12G6509	1	64MB SDRAM card assembly
11	99A1611	1	Ethernet blank shield, use with non-network system boards
12	56P2236	1	Shield, parallel port
13	56P1543	1	INA blank flat shield, use when options are not installed

Assembly 22.2: Electronics



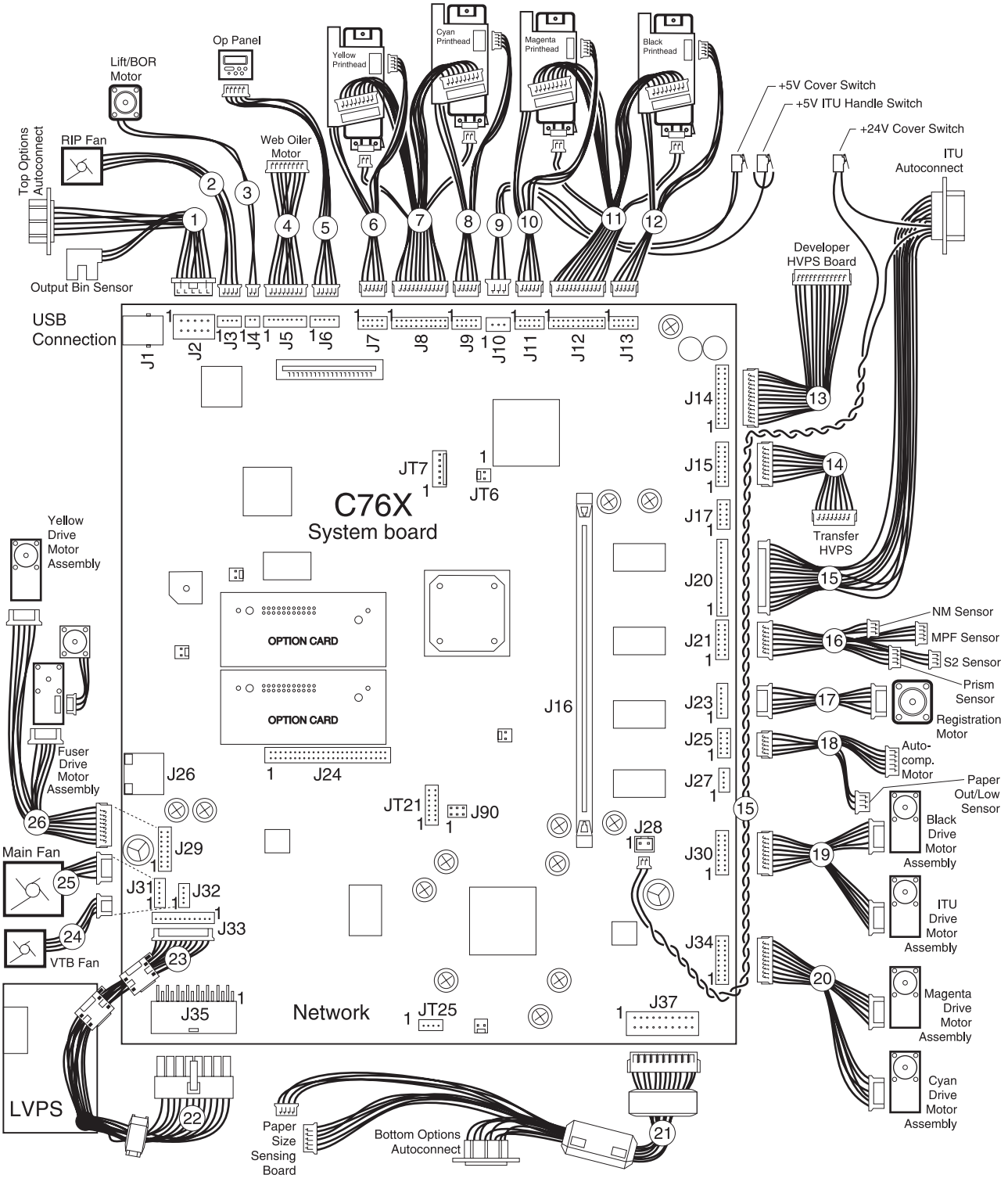
Asm-index	Part number	Units	Description
22.2–1	12G6327	1	Transfer HVPS board
2		2	Screw type 323, parts packet 12G6309 (TFR HVPS board to frame)
3		1	Screw, parts packet 12G6530 (TFR HVPS board to frame)
4	12G6541	3	Standoff, high voltage power supply - developer board
5		8	Screw, parts packet 12G6540
6	56P2897	1	Developer HVPS board

Assembly 22.3: Electronics



Asm-index	Part number	Units	Description
22.3–1	56P1551	1	VTB fan, 60 mm
2	12G6490	1	VTB fan gap cover
3	56P1509	1	Fuser fan assembly with cable
4	12G6529	2	Screws, fuser fan mounting
5	56P1538	1	RIP fan, 92 mm
6	56P1500	1	RIP fan duct
7		2	Screws, parts packet 12G6530

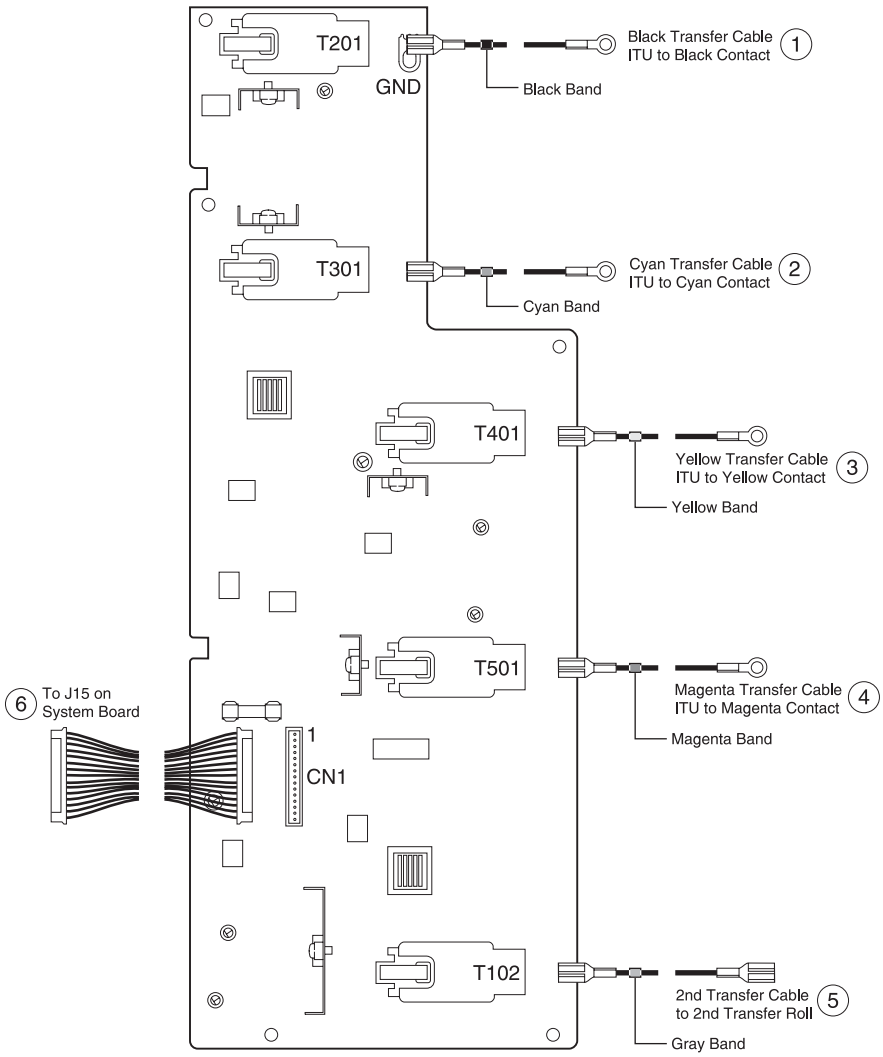
Assembly 23: Electronics—cabling interconnections 1



Assembly 23: Electronics—cabling interconnections 1

Asm-index	Part number	Units	Description
23–1	56P1539	1	Cable, options - stacker with output bin sensor
2	56P1538	1	RIP fan, 92 mm
3	56P1536	1	Motor assembly, Lift/BOR
4	56P1550	1	Cable, oiler motor driver
5	12G6321	1	Cable, operator panel
6	56P2801	1	Printhead assembly - yellow mirror motor (attached to yellow printhead)
7	56P1549	1	Cable, laser - cyan/yellow
8	56P2801	1	Printhead assembly - cyan mirror motor (attached to cyan printhead)
9	56P1540	1	Printhead interlock cable assembly
10	56P2801	1	Printhead assembly - magenta mirror motor (attached to magenta printhead)
11	56P1548	1	Cable, laser - black/magenta
12	56P2801	1	Printhead assembly - black mirror motor (attached to black printhead)
13	56P1501	1	Cable, HVPS control - developer
14	56P1502	1	Cable, HVPS control - transfer
15	56P1513	1	ITU light shield assembly (autoconnect)
16	56P2174	1	Cable, S2/XPAR/NMS/MPF (without sensors)
17	56P2857	1	Registration motor assembly with cable
18	56P1542	1	Cable, pick motor extension and paper level sensing
19	56P1508	1	Cable, ITU and K cartridge motor
20	56P1507	1	Cable, C and M cartridge motor
21	56P1503	1	Cable assembly - options bottom/paper size sensing
22	56P1514	1	LVPS assembly - with cable - power
23	56P1514	1	LVPS assembly - for fuser DC control
24	56P1551	1	VTB fan, 60 mm
25	56P1509	1	Fuser fan assembly with cable
26	56P1506	1	Cable, fuser and Y cartridge motor
NS		1	Toroids, parts packet 56P2942

Assembly 24: Electronics—cabling interconnections 2

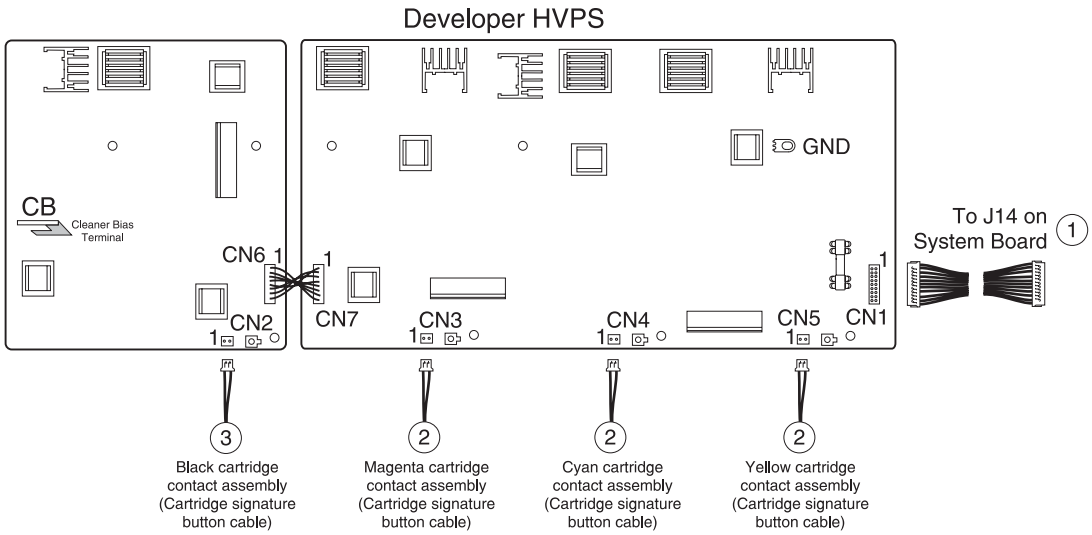


Transfer HVPS

Assembly 24: Electronics—cabling interconnections 2

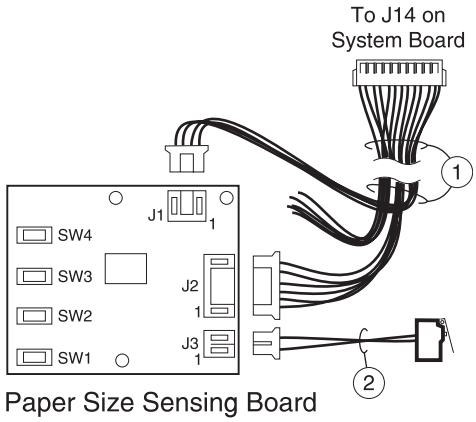
Asm-index	Part number	Units	Description
24–1	56P1565	1	Black terminal contact assembly
2	56P1567	1	Cyan terminal contact assembly
3	56P1568	1	Yellow terminal contact assembly
4	56P1566	1	Magenta terminal contact assembly
5	56P0174	1	Cable assembly, second transfer voltage
6	56P1502	1	Cable, HVPS control - transfer

Assembly 25: Electronics—cabling interconnections 3



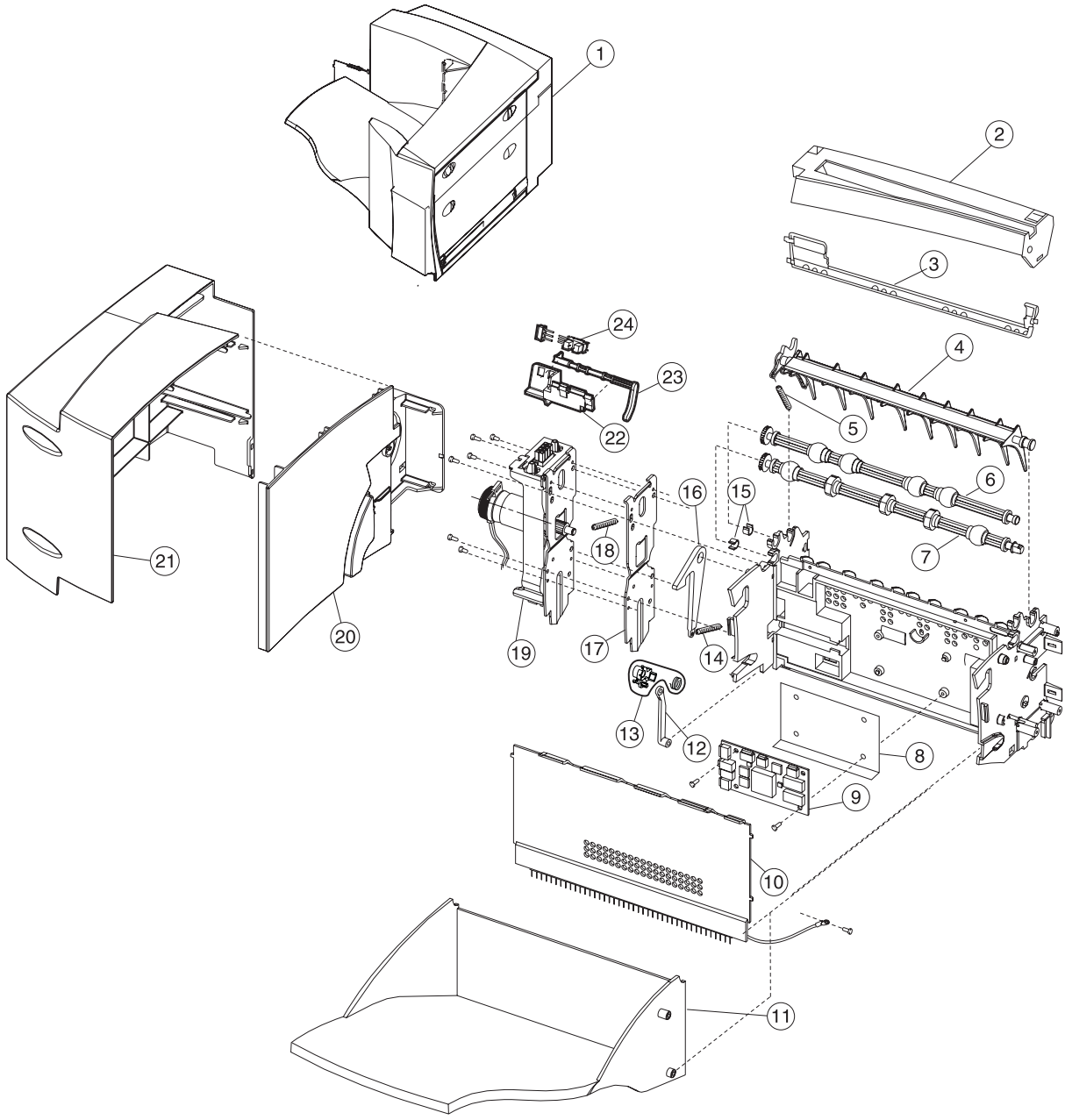
Asm-index	Part number	Units	Description
25–1	56P1501	1	Cable assembly, HVPS control - developer
2	56P0310	3	Cartridge contact assembly, complete, cyan/magenta/yellow
3	56P1561	1	Cartridge contact assembly, complete, black

Assembly 26: Electronics—cabling interconnections 4



Asm-index	Part number	Units	Description
26–1	56P1503	1	Cable assembly - options bottom/paper size sensing
2	56P2806	1	ITU drive assembly with motor and waste toner full switch

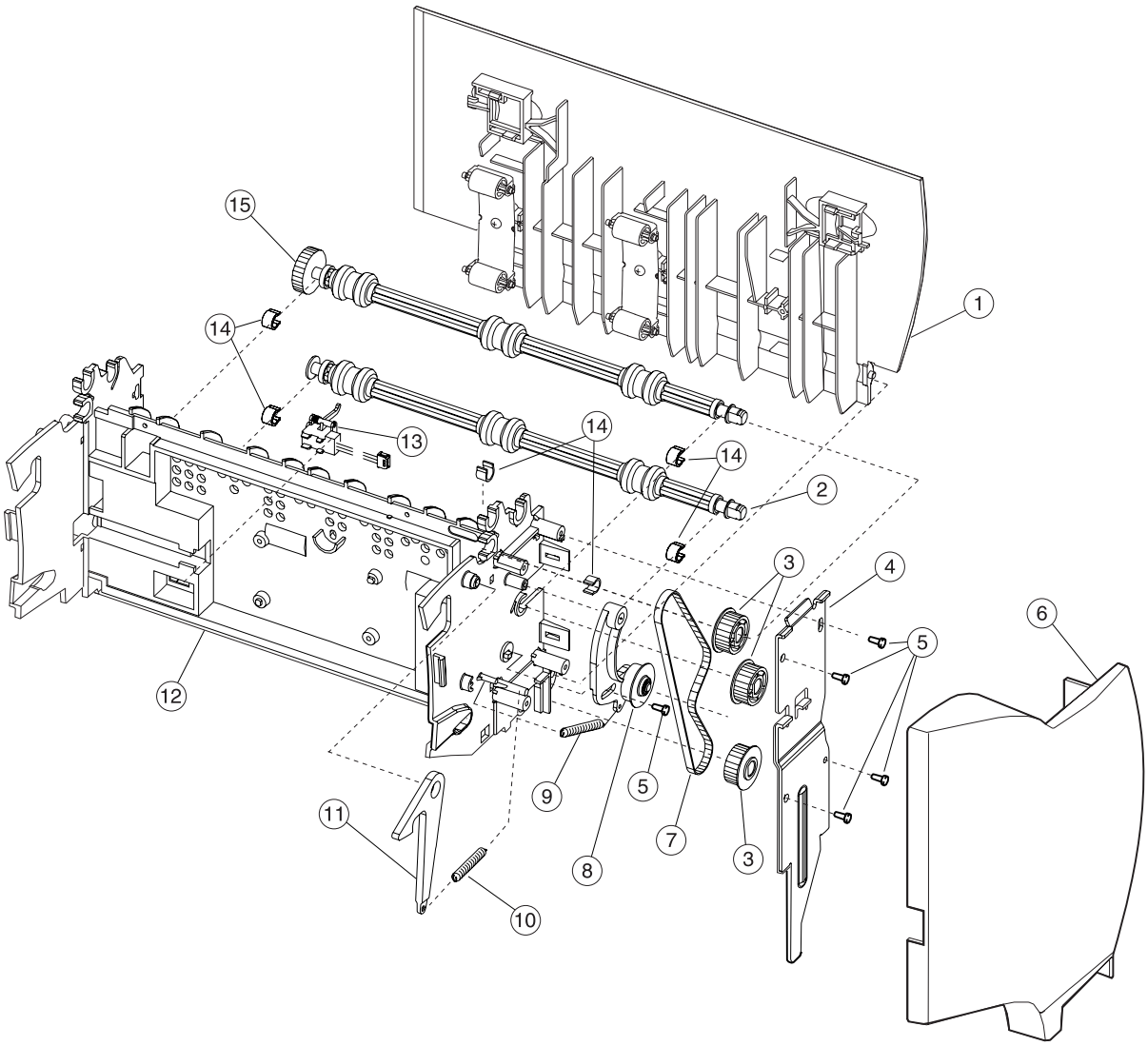
Assembly 27: Output expander



Assembly 27: Output expander

Asm-index	Part number	Units	Description
27–1	56P2870	1	Output expander, complete
2	56P2918	1	Right cover
3	56P2919	1	ESD brush cover
4	56P2875	1	Deflector, upper redrive, also order 99A0104
5	99A0104	1	Spring, upper diverter
6	99A0369	1	Shaft assembly, exit, also order parts packet 99A0572
7	99A0052	1	Shaft assembly, lower exit, also order parts packet 99A0572
8	56P0407	1	Shield, output option card
9	99A0915	1	Board, output expander DC motor
10	56P2871	1	Cover, front control board
11	56P2879	1	Tray, output expander
12	99A1688	1	Diverter arm
13	99A1689	1	Spring clutch assembly
14	99A0482	1	Spring, output tray
15		2	Shaft bearing, parts packet 99A0572
16	56P2878	1	Latch, output tray
17	56P0406	2	Bracket, front attach
18	99A0415	2	Spring, swing arm
19	56P2917	1	Output expander assembly, mechanical linkage
20	56P2874	1	Cover, rear support
21	56P2873	1	Rear cover
22	56P2876	1	Level sensor bracket
23	56P2877	1	Flag, output paper level
24	99A0414	1	Sensor, dual bin full

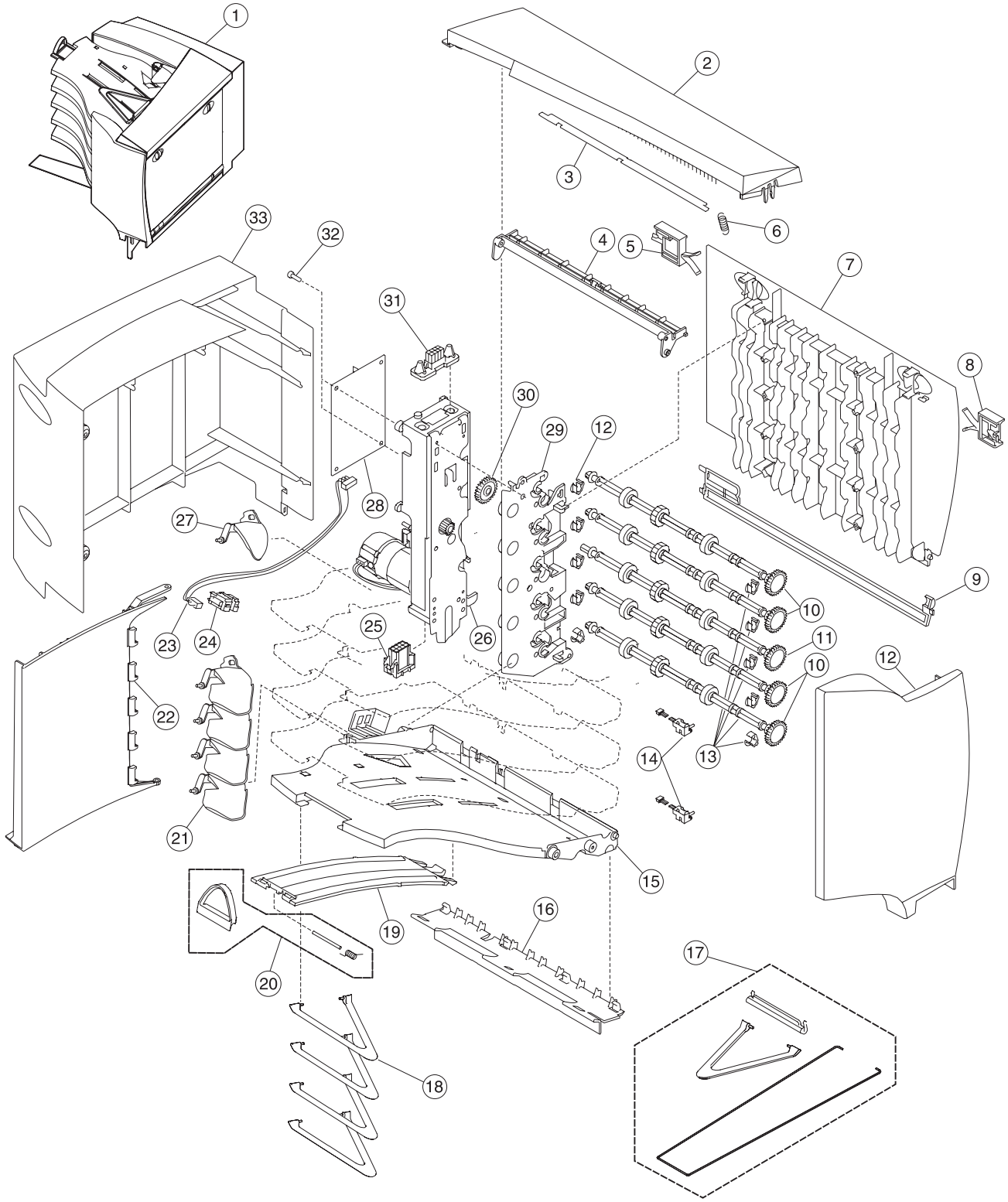
Assembly 27.1: Output expander



Assembly 27.1: Output expander

Asm-index	Part number	Units	Description
27.1–1	56P2916	1	Door assembly, right jam access
2	99A0368	1	Shaft assembly, lower, also order parts packet 99A0572
3	99A0363	3	Pulley, drive
4	56P0410	2	Bracket, rear attach
5		4	Screw, parts packet 56P0169
6	56P2872	1	Cover, front
7	99A0361	1	Belt, 160 gear
8	99A0362	1	Arm assembly, belt idler
9	99A0364	1	Spring, belt tensioner
10	99A0482	1	Spring, output tray
11	56P2878	1	Latch, output tray
12	56P2899	1	Frame assembly
13	99A0351	1	Sensor, output expander pass thru
14		6	Shaft bearing, parts packet 99A0572
15	99A0913	1	Shaft assembly, middle 40T, also order parts packet 99A0572
NS	56P2943	1	Kit, multi-bin stacker

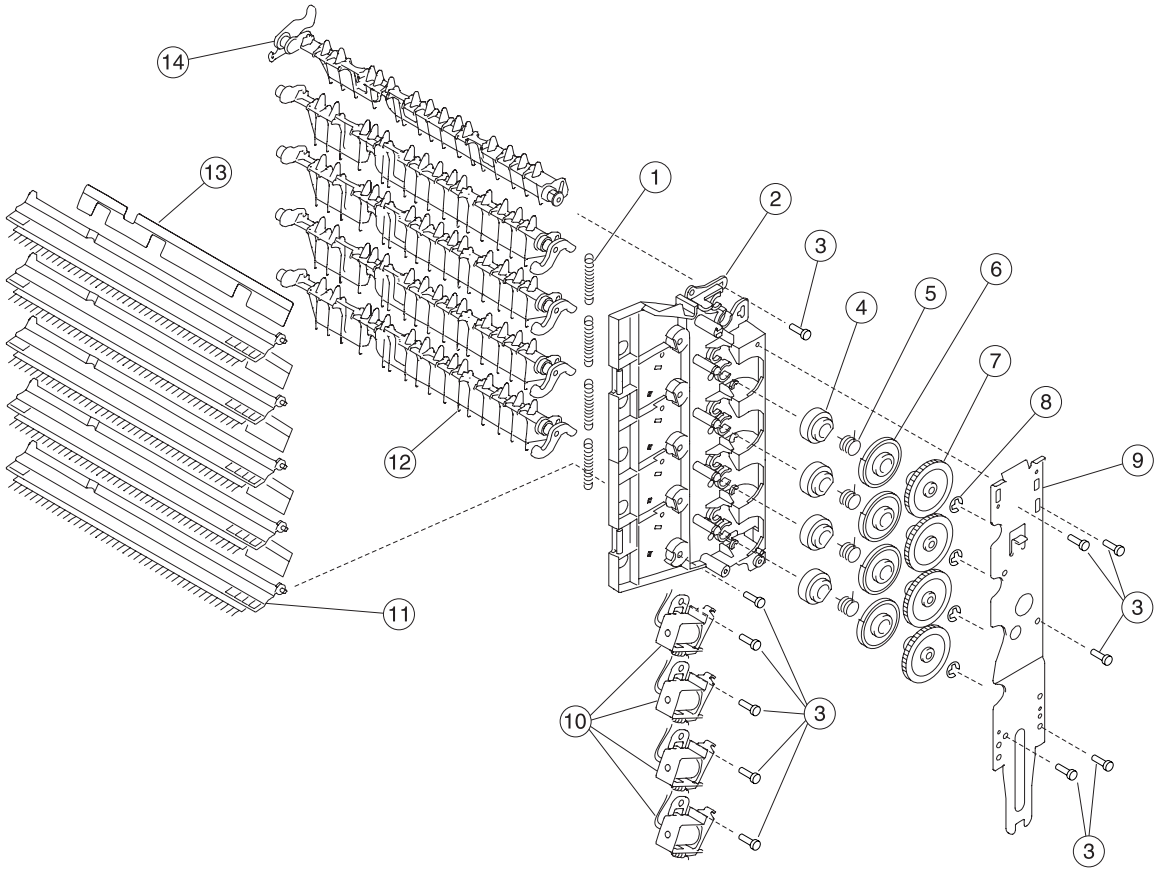
Assembly 28: 5-Bin mailbox



Assembly 28: 5-Bin mailbox

Asm-index	Part number	Units	Description
28–1	56P2880	1	5-Bin mailbox, complete
2	56P2820	1	Redrive cap cover assembly
3	56P2937	1	Cover, wire
4	56P2882	1	Cover, top bin
5	56P2931	1	Latch, access door rear
6	99A0104	1	Spring, upper diverter
7	56P2889	1	Door, front
8	56P2881	1	Latch, access door front
9	56P2930	1	Cover, right
10	99A1723	4	Shaft asm, drive
11	99A1724	1	Shaft asm, drive with gear
12	56P2886	1	Cover, right side
13	99A1725	1	Packet, drive shaft bushing
14	99A1742	2	Sensor, 5-bin mailbox pass thru
15	56P2885	5	Tray, paper cap
16	56P2884	1	Bracket asm, bail attach
17	56P2940	1	Kit, 5-bin mailbox asm
18		1	Bail, order P/N 56P2940, 5-bin mailbox asm kit
19	56P2932	5	Support, paper tray
20	56P2939	5	Stop asm, paper tray
21	56P2935	4	Flag, bin full
22	56P2887	1	Rear structural cover
23	99A1736	5	Cable, dual sensor
24	99A1737	5	Sensor, dual bin level
25	99A1718	1	Cable asm, lower autoconnect
26	99A1716	1	Drive asm, main DC drive
27	56P2883	1	Flag, bin full
28	99A1740	1	Board asm, 5-bin mailbox system
29	56P2941	1	Frame asm, left w/clutch asm
30	99A1786	1	Gear, drive
31	99A1719	1	Cable asm, upper autoconnect
32		12	Screw, board mounting, parts packet 99A0263
33	56P2888	1	Cover, left side

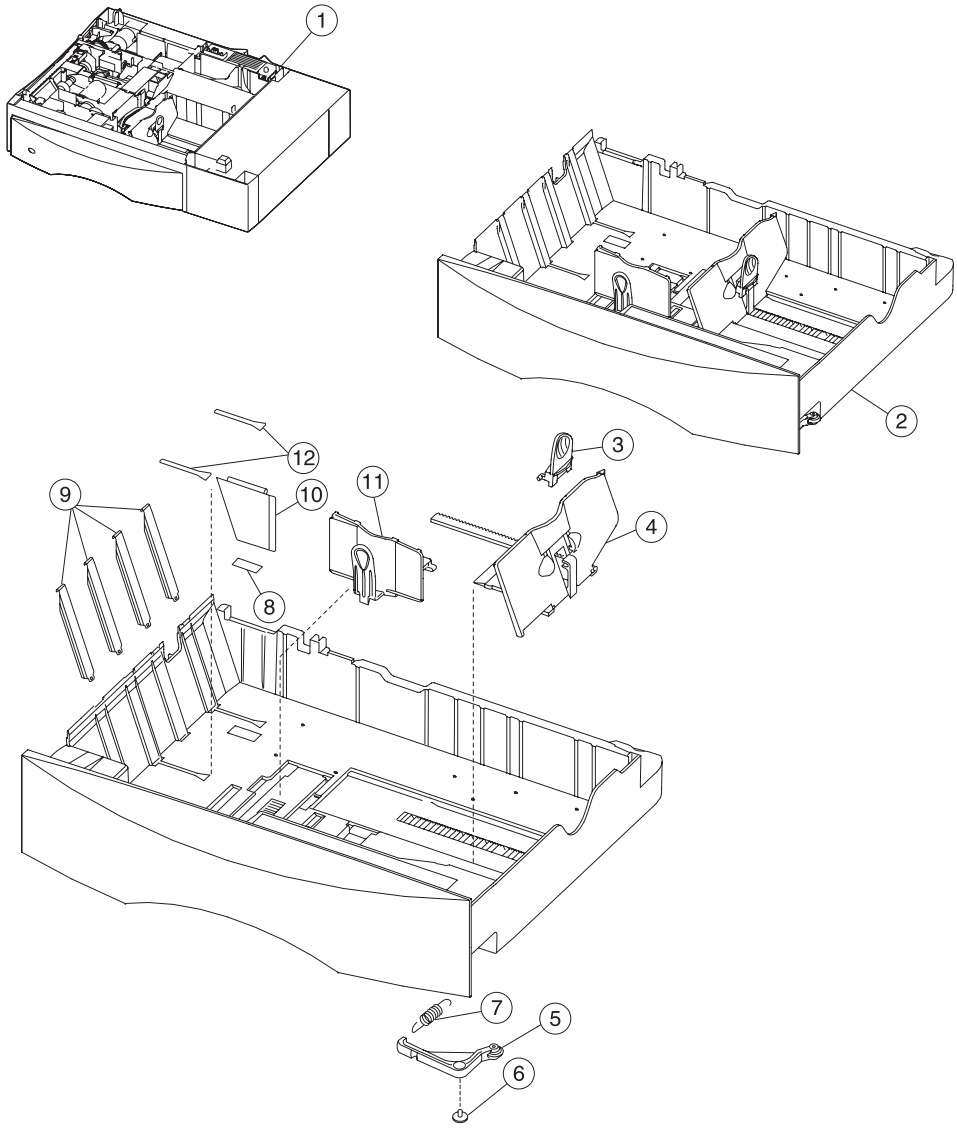
Assembly 28.1: 5-Bin mailbox



Assembly 28.1: 5-Bin mailbox

Asm-index	Part number	Units	Description
28.1–1	99A1741	4	Spring, diverter
2	56P2936	1	Frame asm, right side
3		12	Screw type 323, parts packet 12G6309
4	99A1728	4	Cam, diverter actuator
5	99A1731	4	Spring, diverter actuator
6	99A1729	4	Latch, diverter actuator
7	99A1730	4	Arbor, diverter actuator
8	99A1789	4	Retainer, C-clip
9	56P0418	1	Bracket, attach front
10	99A1732	4	Solenoid, diverter
11	56P2938	5	Deflector, paper exit w/brush
12	56P2934	4	Deflector, paper
13	99A1787	4	Deflector
14	56P2933	1	Deflector, paper top bin
NS	56P0421	1	Spring, static ground
NS	99A0462	1	Grease packet, IBM #23
NS	99A1715	1	Roller asm, rear access door
NS	99A1717	1	32 ppm drive gear
NS	99A1788	1	Retainer, R-ring
NS	99A0450	10	Retainer
NS	56P0550	1	Cable, tray media level sensor

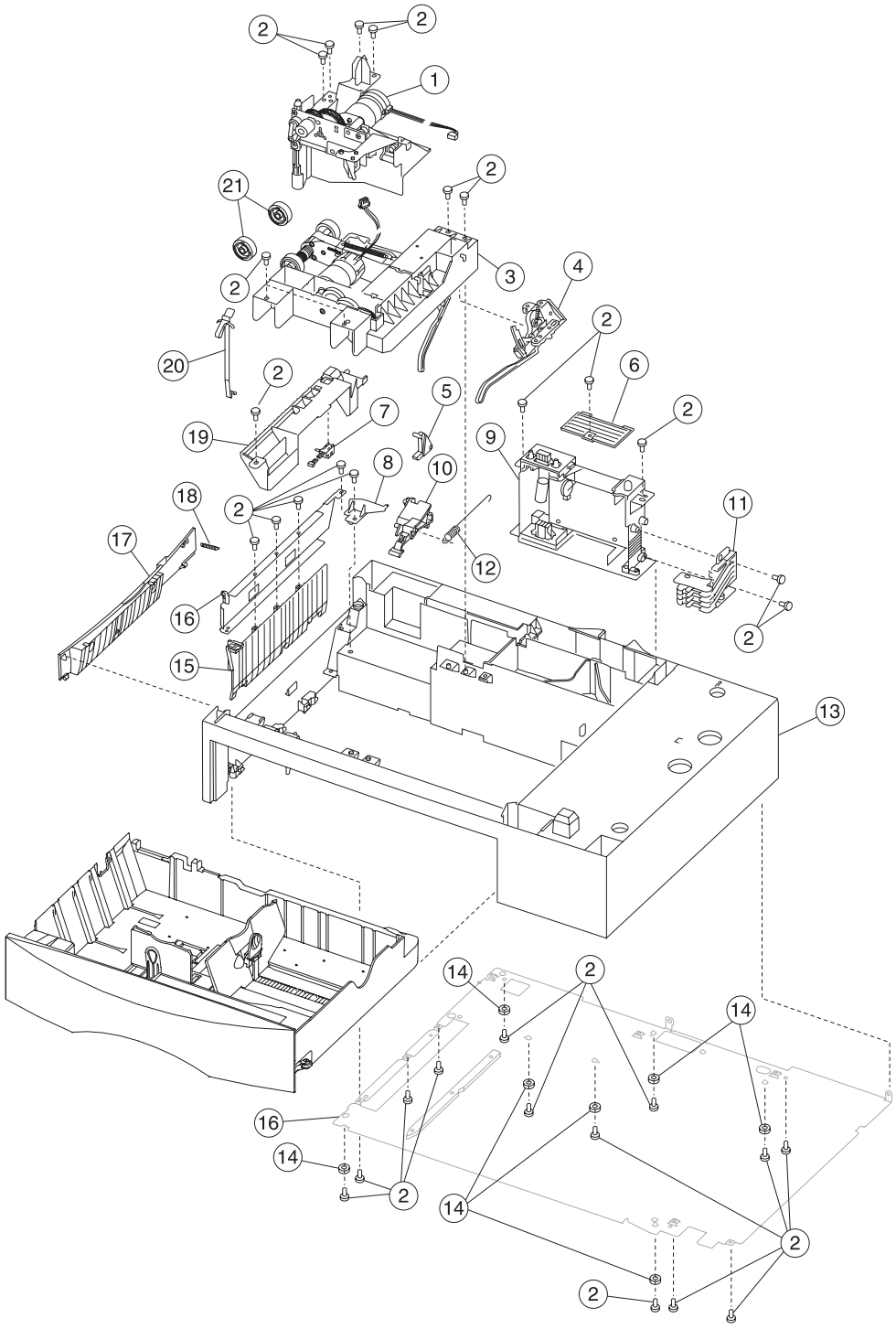
Assembly 29: 500-Sheet drawer option



Assembly 29: 500-Sheet drawer option

Asm-index	Part number	Units	Description
29–1	56P2850	1	500-Sheet drawer option, complete
2	56P2834	1	500-Sheet tray assembly
3	12G6419	1	Back restraint latch
4	12G6418	1	Back restraint
5	12G6425	1	Tray bias bellcrank assembly
6		1	Screw, parts packet 12G6533
7	12G6426	1	Tray bias spring
8	12G6568	1	Reflector label
9	12G6421	1	Wear strip
10	12G6420	1	Tray wear clip
11	12G6417	1	Side restraint
12	56P1504	2	Restraint pad

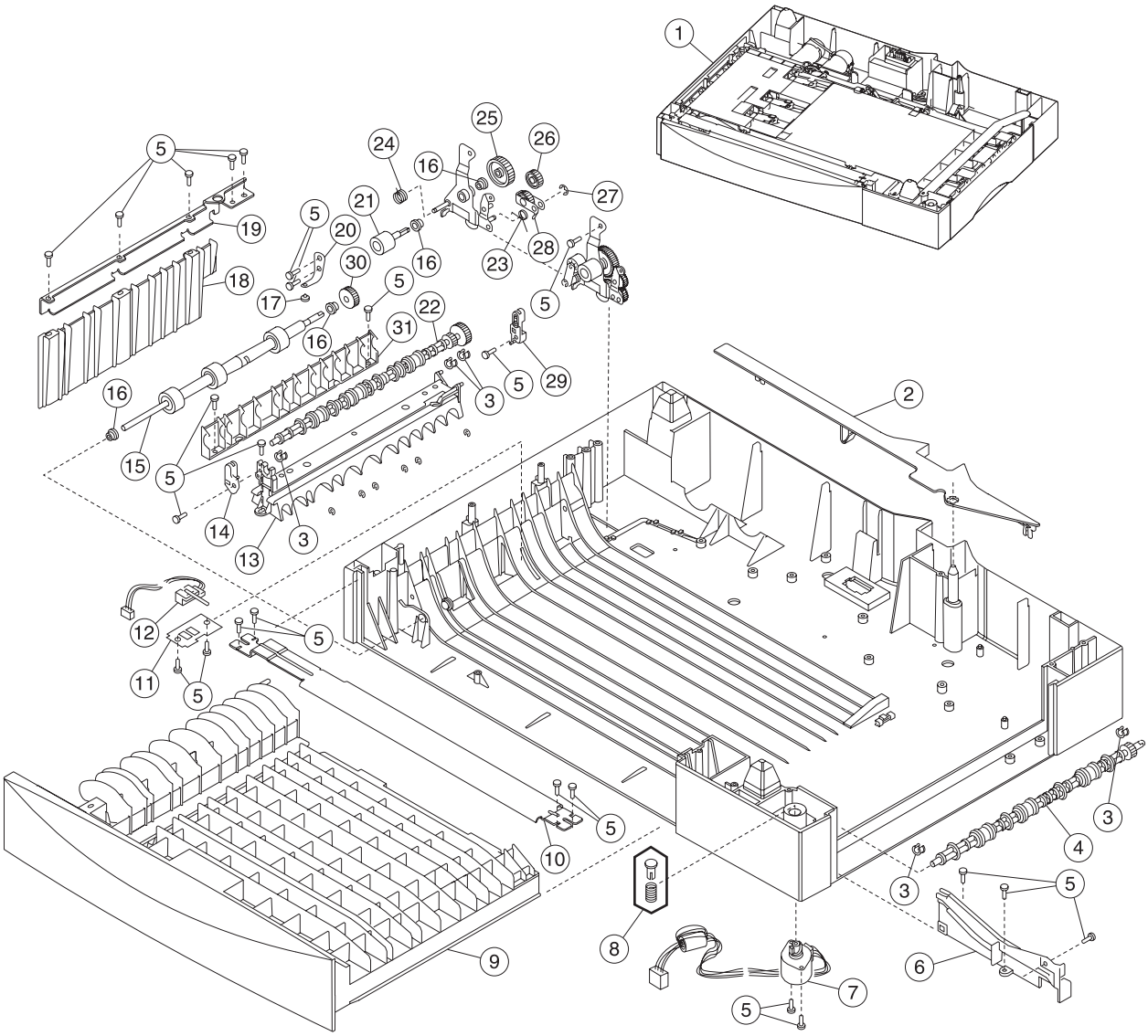
Assembly 29.1: 500-Sheet drawer option



Assembly 29.1: 500-Sheet drawer option

Asm-index	Part number	Units	Description
29.1–1	56P0168	1	Drive assembly, 500 option 2
2		31	Screw type 323, parts packet 12G6309
3	56P2868	1	500-Sheet option tray pick assembly
4	12G6565	1	Paper level sensing assembly
5	12G6471	1	Tray interlock bellcrank
6	56P2859	1	Cover, frame
7	12G6553	1	Pass thru sensor
8	12G6562	1	Hinge
9	12G6559	1	Electronics/size sensing assembly with system board
10	12G6558	1	Pick arm lift bellcrank
11	12G6566	1	Paper size sensing assembly
12	12G6557	1	Bellcrank lift spring
13	56P2858	1	500 base assembly
14	12G6380	7	Machine pad
15	56P2867	1	Paper guide
16	12G6563	1	Wall support plate
17	56P2869	1	Base door assembly
18	12G6561	1	Spring
19	56P2849	1	500 option deflector
20	56P2176	1	Grounding spring
21	99A0070	2	Pick roll tires
NS	12G6510	4	Cable tie (6 in a pack)

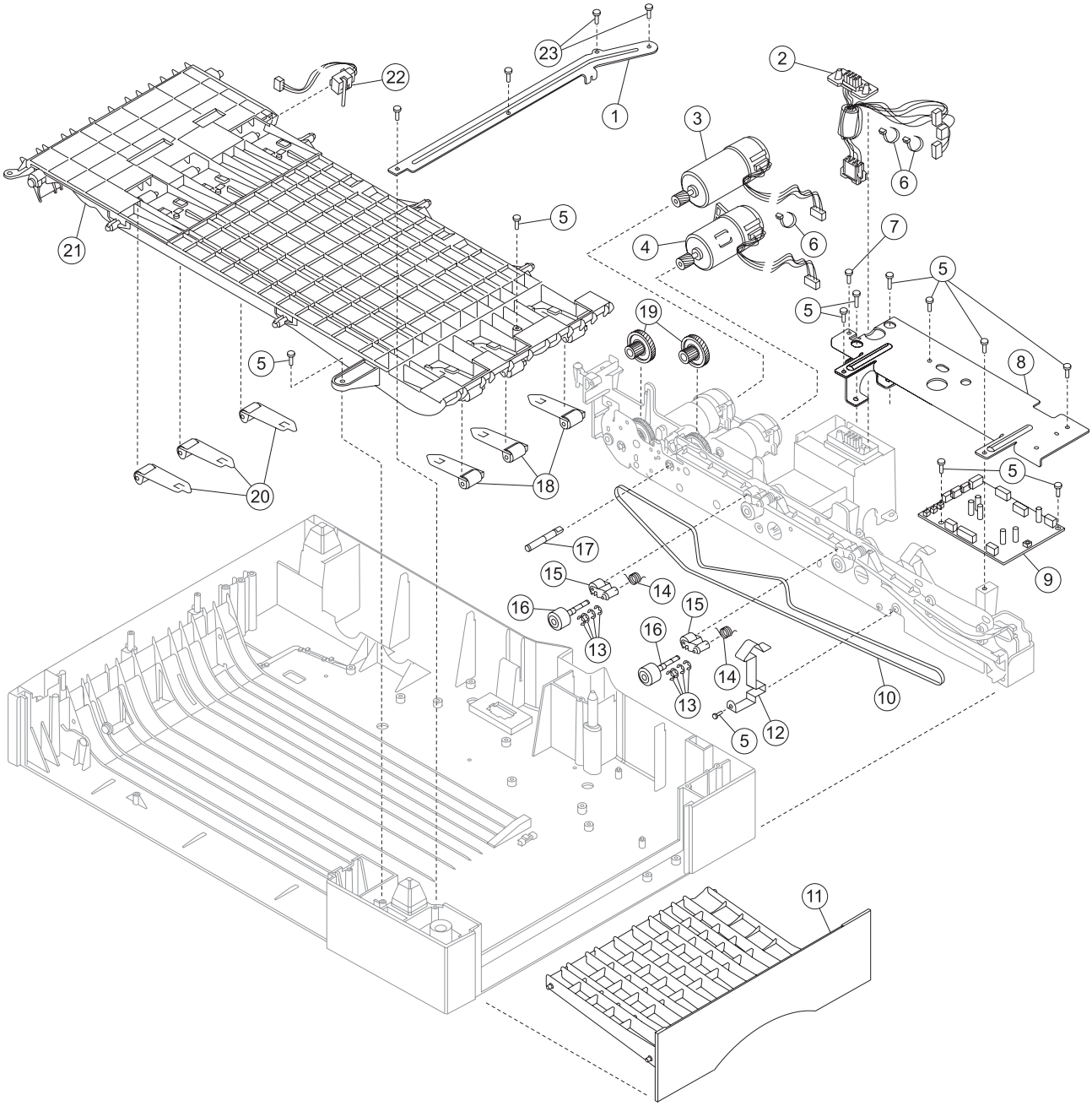
Assembly 30: Duplex option



Assembly 30: Duplex option

Asm-index	Part number	Units	Description
30–1	56P2860	1	Duplex option, complete
2	56P2863	1	Back cover
3	56P2898	5	Redrive bearing
4	56P0447	1	Duplex entry shaft assembly
5		20	Screw, parts packet 12G6533
6	56P0434	1	Right side front tray guide
7	56P0483	1	Deflector actuator assembly
8	56P1570	1	Deflector follower assembly
9	56P2861	1	Duplex front jam tray assembly
10	56P0457	1	Duplex support bracket
11	56P2866	1	Sensor mount plate
12	56P0442	1	Duplex exit sensor
13	56P0435	1	Duplex shaft mount
14	56P0479	1	Front decurl assembly
15	56P0444	1	F/R backup shaft assembly
16	56P0476	3	5 mm bushing
17	56P0473	1	Brake pad
18	56P2865	1	Duplex paper guide
19	56P0454	1	Wall support
20	56P0475	1	Brake spring
21	56P0472	1	Pass thru shaft assembly
22	56P0441	1	Duplex shaft assembly
23	56P0468	1	Pass thru spring
24	56P0470	1	Aligner arm spring
25	56P0466	1	Spur drive gear
26	56P0467	2	26T duplex gear
27			Retainer, parts packet 99A0267
28	56P0471	1	Bellcrank assembly
29	56P0474	1	Decurl BAC assembly
30	56P0445	1	40T shaft drive F/R gear
31	56P0449	1	Support decurl guide
NS	56P0482	1	Pulley washer

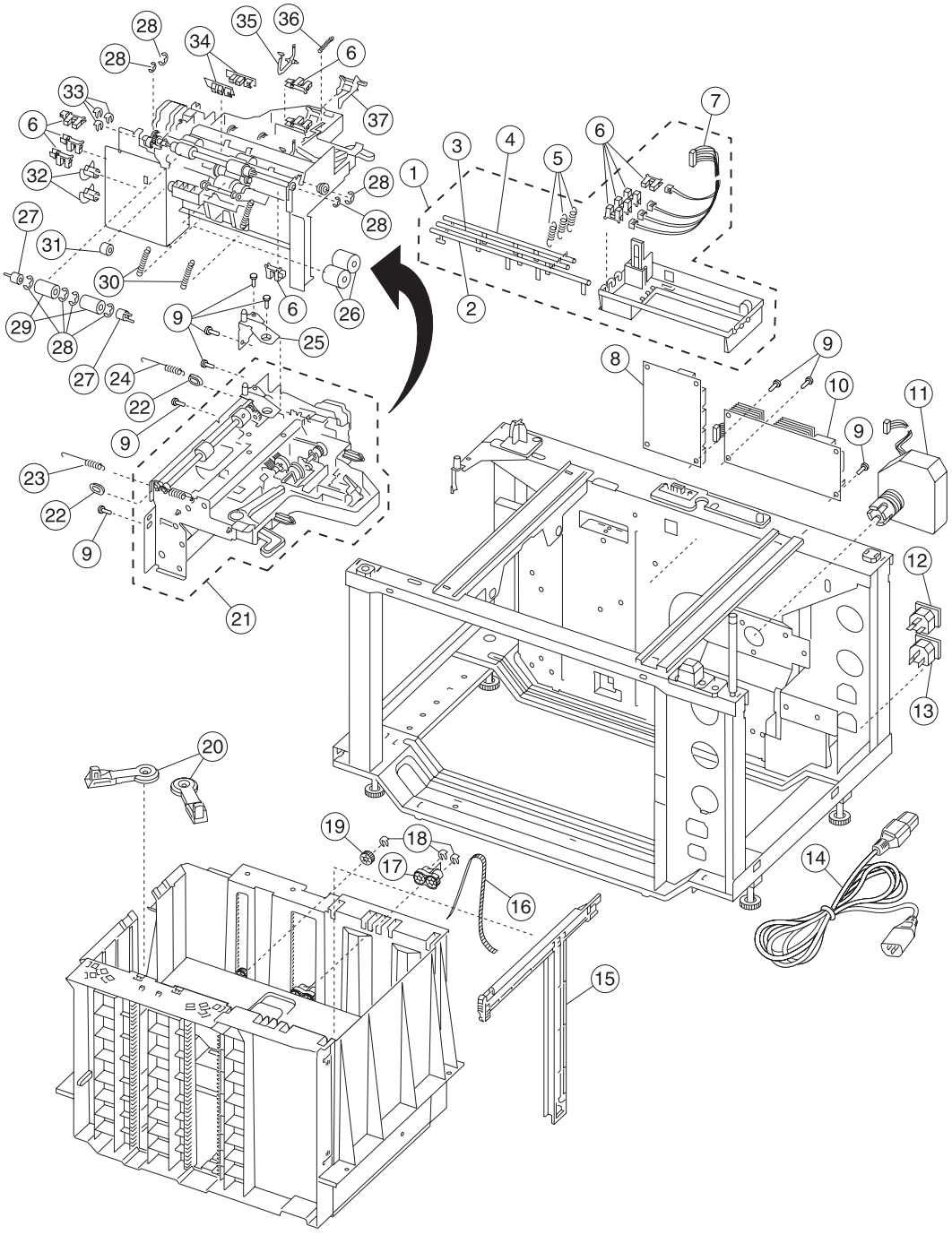
Assembly 30.1: Duplex option



Assembly 30.1: Duplex option

Asm-index	Part number	Units	Description
30.1–1	56P0456	1	Duplex support plate
2	56P0462	1	Autoconnect cable assembly
3	56P0463	1	DC forward/reverse motor assembly
4	56P0464	1	DC duplex feed motor
5		1	Screw type 323, parts packet 12G6309
6	12G6510	6	Cable tie (6 in pack)
7		1	Screw type 323, parts packet 88A0235
8	56P0459	1	Back support
9	56P0430	1	Duplex card assembly
10	56P2484	1	Belt, transfer
11	56P2862	1	Right jam clearance tray assembly
12	56P0458	1	Chassis ground spring
13	99A1789	1	Retainer, C-clip
14	56P0478	2	Aligner spring
15	99A0323	2	Paper guide assembly
16	56P0465	2	Drive alignment shaft assembly
17	56P0477	1	Reduction gear shaft
18	56P0451	3	Right backup spring assembly
19	99A1717	2	32 ppm drive gear
20	56P0452	3	Left backup spring assembly
21	56P2864	1	Upper rib assembly
22	56P0437	1	Duplex input sensor
23			Screw (long), parts packet 12G6530

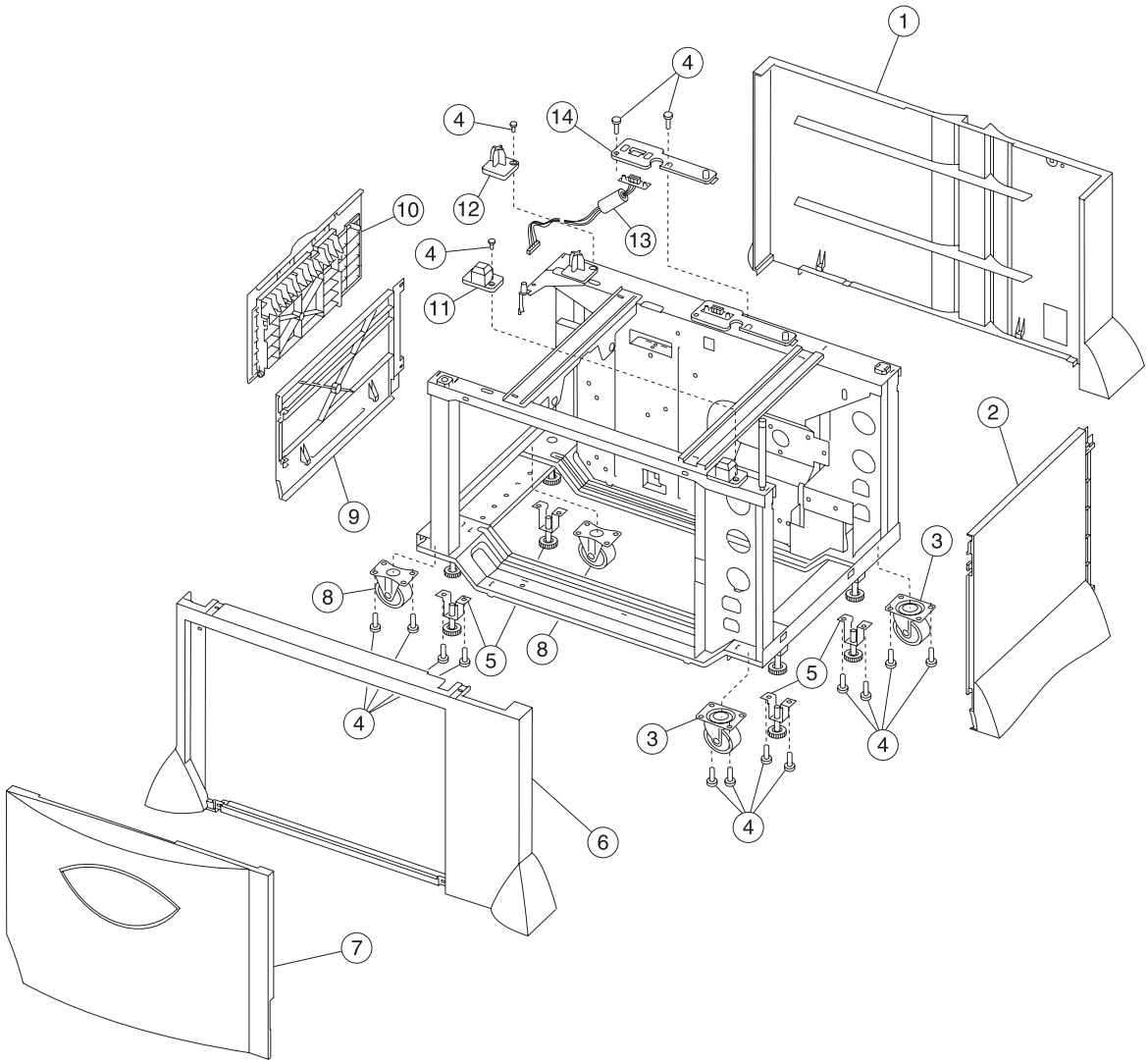
Assembly 31: High-capacity input tray (HCIT)



Assembly 31: HCIT

Asm-index	Part number	Units	Description
31–1	56P0561	1	Paper size sensor box assembly
2	56P0519	1	Flag, paper size F
3	56P0520	1	Flag, paper size C
4	56P0518	1	Flag, paper size R
5	56P0522	3	Spring, paper size flag
6	56P0516	10	Sensor, photo interrupter
7	56P0511	1	Paper size sensors cable
8	56P0494	1	System control board
9			Screws, parts packet 12G6533
10	56P0495	1	LVPS
11	56P0513	1	Elevator motor assembly
12	56P0497	1	AC power outlet
13	56P0498	1	AC power inlet
14	56P0490	1	Jumper, AC power cord
15	56P0524	1	Paper tray guide
16	56P0547	1	Elevator lift belt
17	56P0549	1	Elevator lift
18	56P0563	3	Ring 7, elevator lift gear/elevator lift
19	56P0548	1	Elevator lift gear
20	56P0523	2	Paper tray arms
21	56P0525	1	Feed unit, complete assembly
22	56P0527	2	Bushing
23	56P0533	1	Spring, feed unit front
24	56P0534	1	Spring, feed unit rear
25	56P0562	1	Feed cover
26	56P0542	2	Separation/torque roller
27	56P0529	2	Feed cam
28			E-clips, parts packet 56P0531
29	56P0528	2	Feed roller
30	56P0530	2	Spring, feed unit
31	56P0532	1	Bushing, 060
32	56P0544	2	Emitter timing wheel
33	56P0535	3	Clip, plastic 5W
34	56P0526	2	Sensors, special optical
35	56P0536	1	Level sensor flag
36	56P0540	1	Spring, extension
37	56P0539	1	Near empty sensor flag

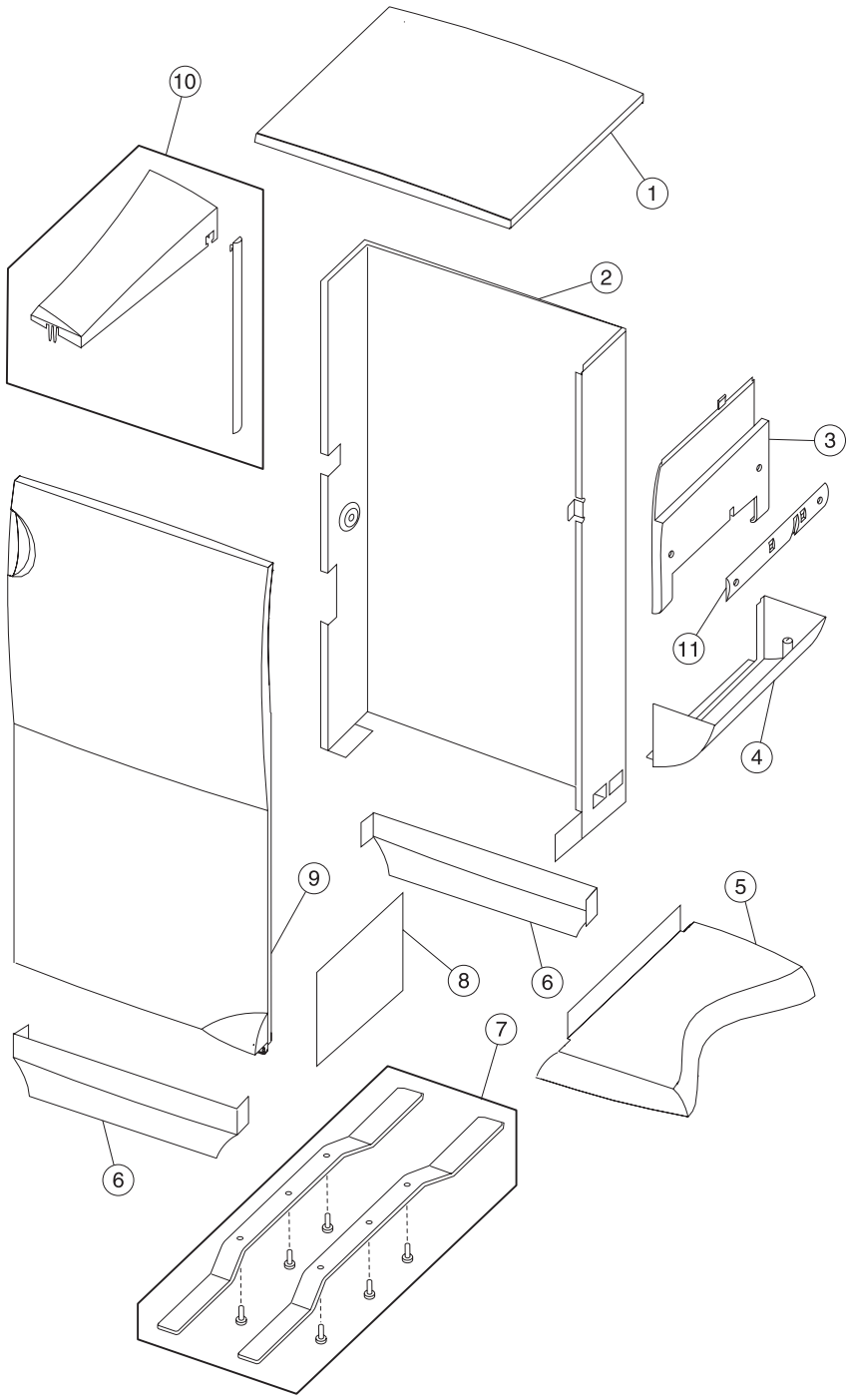
Assembly 31.1: High-capacity input tray (HCIT)



Assembly 31.1: HCIT

Asm-index	Part number	Units	Description
31.1–1	56P2905	1	Rear cover
2	56P2903	1	Right side cover
3	56P0491	2	Caster, movable
4		16	Screws, parts packet 12G6533
5	56P0493	4	F adjuster
6	56P2901	1	Front cover
7	56P2902	1	Cover, main CA
8	56P0492	2	Caster, fixed
9	56P2904	1	Left side cover
10	56P2906	1	Upper left side jam cover
11	56P0507	1	Locating pin, options front right
12	56P0506	1	Locating pin, options rear left
13	56P0514	1	Options autoconnect cable assembly
14	56P0517	1	Options cable mounting plate
NS	56P0509	1	Cable, feed unit special sensors
NS	56P0510	1	Cable, feed unit sensors
NS	56P0512	1	Cable, elevator motor
NS	56P0515	1	Magnetic latch
NS	56P0541	1	Tray present lever
NS	56P0543	9	Cable clamp
NS	56P0564	1	Kit, stabilizer with mounting screws

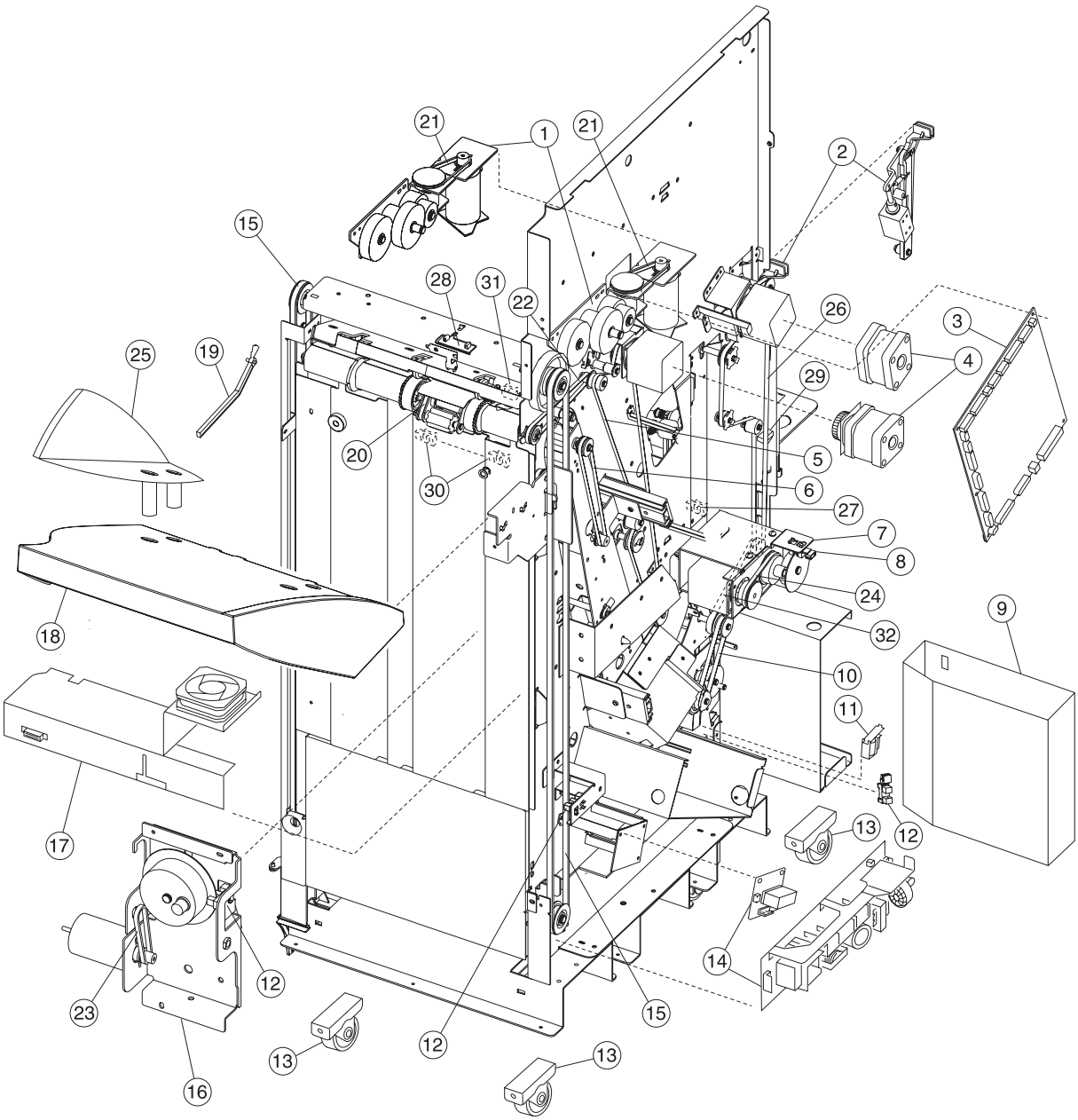
Assembly 32: Finisher



Assembly 32: Finisher

Asm-Index	Part number	Units	Description
32–1	56P0321	1	Top cover (tall finisher)
1	56P1287	1	Scanner plate (short finisher)
2	56P0569	1	Rear cover (tall finisher)
2	56P1285	1	Rear cover (short finisher)
3	56P0573	1	Upper right side cover (tall finisher)
3	56P1286	1	Upper right side cover (short finisher)
4	56P0574	1	Lower tray cover
5	56P0576	1	Bottom kick cover
6	56P0575	1	Front/rear lower cover
7	56P0387	1	Bar tip unit
8	56P0577	1	Lower right side cover
9	56P0320	1	Cover front door
10	56P0566	1	Finisher install kit
11	56P1290	1	Cover wire

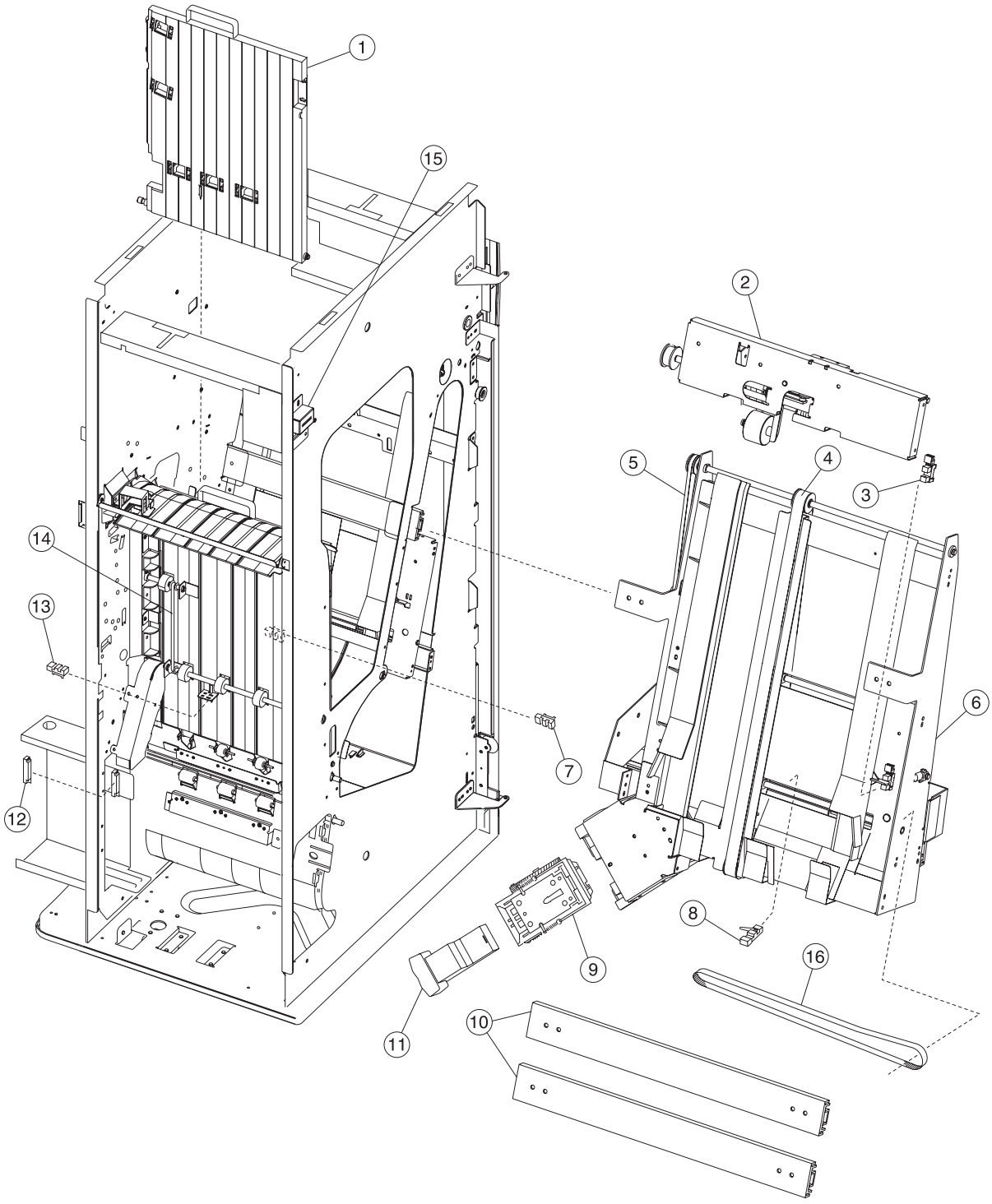
Assembly 32.1: Finisher



Assembly 32.1: Finisher

Asm-index	Part number	Units	Description
32.1–1	56P0324	1	Motor assembly elevator tray
2	56P0357	1	Actuation assembly
3	56P1471	1	HCOF control board assembly
4	56P0325	1	Motor assembly paper feed
5	56P0332	1	Accumulator paper feed belt (40S3M900)
6	56P2294	1	Accumulator drive belt (B30S2M334)
7	56P0315	1	Punch assembly
8	56P0345	1	Punch motor homing sensor (GP1A73A)
9	56P0318	1	Box, chad
10	56P0329	1	Inverter D drive belt (40S3M225)
11	56P0383	1	Solenoid inverter
12	56P0347	3	Jogger fence homing sensor (EE-SX460-P1-CHN)
13	56P0342	4	Caster
14	56P0338	1	Low voltage power supply
15	56P0333	2	Tray elevation belt (60S6M1420)
16	56P0323	1	Output tray offset motor and gear assembly
17	56P0386	1	Fan assembly DC motor
18	56P0322	1	Tray paper
19	56P0326	1	Flag paper full
20	56P0331	1	Exit foam Roller drive belt (40S3M80)
21	56P0334	1	Tray elevation drive belt (170P2M4)
22	56P0335	1	Exit roller drive belt (40S2M264)
23	56P0336	1	Output tray offset drive belt (40S2M134)
24	56P0337	1	Punch belt (40S2M176)
25	56P0578	1	Tray wall cover
26	56P0327	1	Paper feed belt (40S3M888)
27	56P0343	1	Punch timing sensor (OJ-541-A5)
28	56P0350	2	Paper surface sensor (EE-SX460-P1-CHN)
29	56P0352	1	Printer docking switch SS-5FL-3T(10E)
30	56P0388	1	Tray limit switches (includes two)
31	56P0346	1	Exit timing sensor (EE-SPY415)
32	56P0328	1	Inverter transfer belt (40S3M198)
NS	56P0340	1	Communications cable
NS	56P0341	1	Power cord
NS	56P0354	1	Bracket finisher alignment
NS	56P0356	1	Pack magnet, strong and weak and door latch

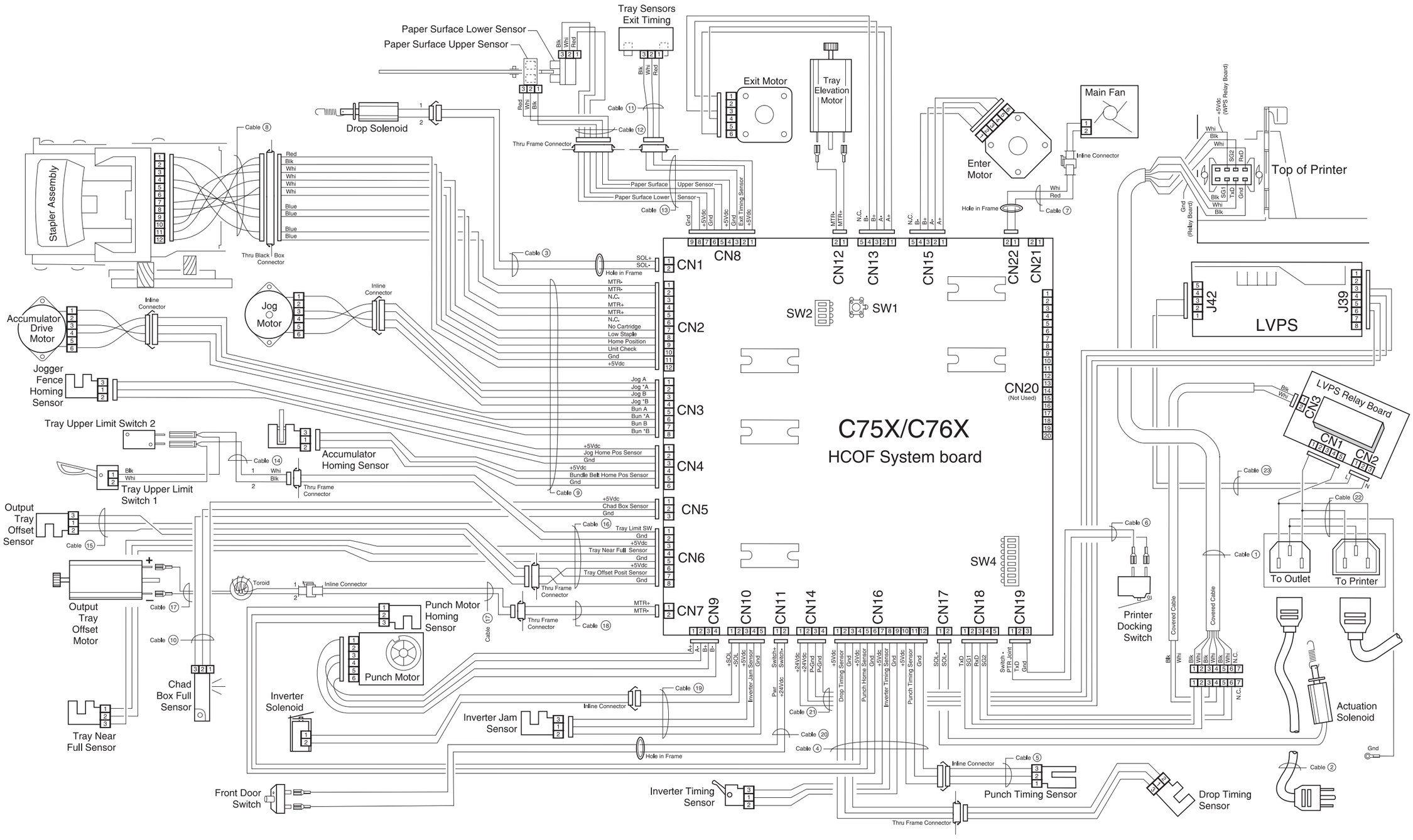
Assembly 32.2: Finisher



Assembly 32.2: Finisher

Asm-index	Part number	Units	Description
32.2–1	56P0355	1	Guide vertical paper
2	56P0385	1	Solenoid drop assembly
3	56P0347	1	Jogger fence homing sensor (EE-SX1235A-P2)
4	56P0384	1	Accumulator belt (hook)
5	56P2294	1	Accumulator drive belt (B30S2M334)
6	56P0319	1	Accumulator w/o stapler
7	56P0348	1	Drop timing sensor (OS-535223-602)
8	56P0349	1	Accumulator homing sensor (OS-311D-A5)
9	56P0316	1	Staple assembly
10	56P0358	2	Accumulator slides
11	56P0317	1	Staple cartridge
12	56P0346	1	Exit timing sensor (EE-SPY415)
13	56P0344	1	Inverter timing sensor (OJ511K-A5)
14	56P0330	1	Paper feed-input belt (40S3M279)
15	56P0351	1	Cover open switch
16	56P2295	1	Jogger fence belt (B40S2M460)
NS	56P0382	1	Harness cable assembly D5 - low voltage power supply to low voltage power relay board

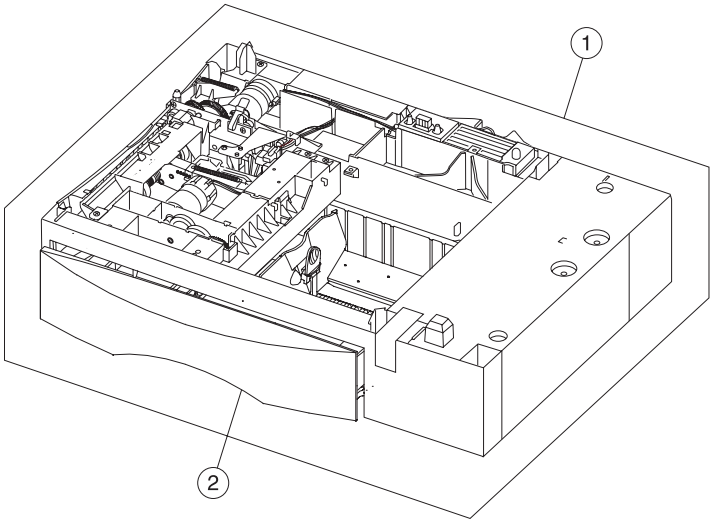
Assembly 33: Finisher cables



Assembly 33: Finisher cables

Asm-index	Part number	Units	Description
33–1	56P0340	1	Communications cable
2	56P0341	1	Power cord
3	56P0359	1	Harness cable assembly H2 - system board to drop solenoid
4	56P0360	1	Harness cable assembly H3 - system board to harness cable assembly H4/drop timing sensor/punch motor homing sensor/inverter timing sensor
5	56P0361	1	Harness cable assembly H4 - harness cable H3 to punch timing sensor
6	56P0362	1	Harness cable assembly H5 - system board to printer docking switch
7	56P0363	1	Harness cable assembly H6 - system board to fan
8	56P0364	1	Harness cable assembly S1 - stapler cable to stapler assembly
9	56P1280	1	Harness cable assembly stapler - system board to cable S1/jogger fence homing sensor/accumulator homing sensor/jogger motor accumulator drive motor
10	56P0368	1	Harness cable assembly S5 - system board to chad box full sensor
11	56P0369	1	Harness cable assembly E2 - cable E5 to exit timing sensor
12	56P0370	1	Harness cable assembly E3 - cable E5 to paper surface upper sensor/paper surface lower sensor
13	56P0371	1	Harness cable assembly E5 - system board to cable E2/E3
14	56P0372	1	Harness cable assembly E6 - cable E8 to tray limit switches
15	56P0373	1	Harness cable assembly E7 - cable E8 to output tray offset sensor
16	56P0374	1	Harness cable assembly E8 - system board to E6/E7
17	56P0375	1	Harness cable assembly E9 - cable E10 to output offset motor
18	56P0376	1	Harness cable assembly E10 - system board to cable E9
19	56P0378	1	Harness cable assembly R1 - system board to inverter solenoid/inverter jam sensor
20	56P0379	1	Harness cable assembly D1 - system board to front door switch
21	56P0380	1	Harness cable assembly D2 - system board to low voltage power supply
22	56P0381	1	Harness cable assembly D3 - low voltage power supply relay board to AC input/output
23	56P0382	1	Harness cable assembly D5 - low voltage power supply to low voltage power supply relay board.

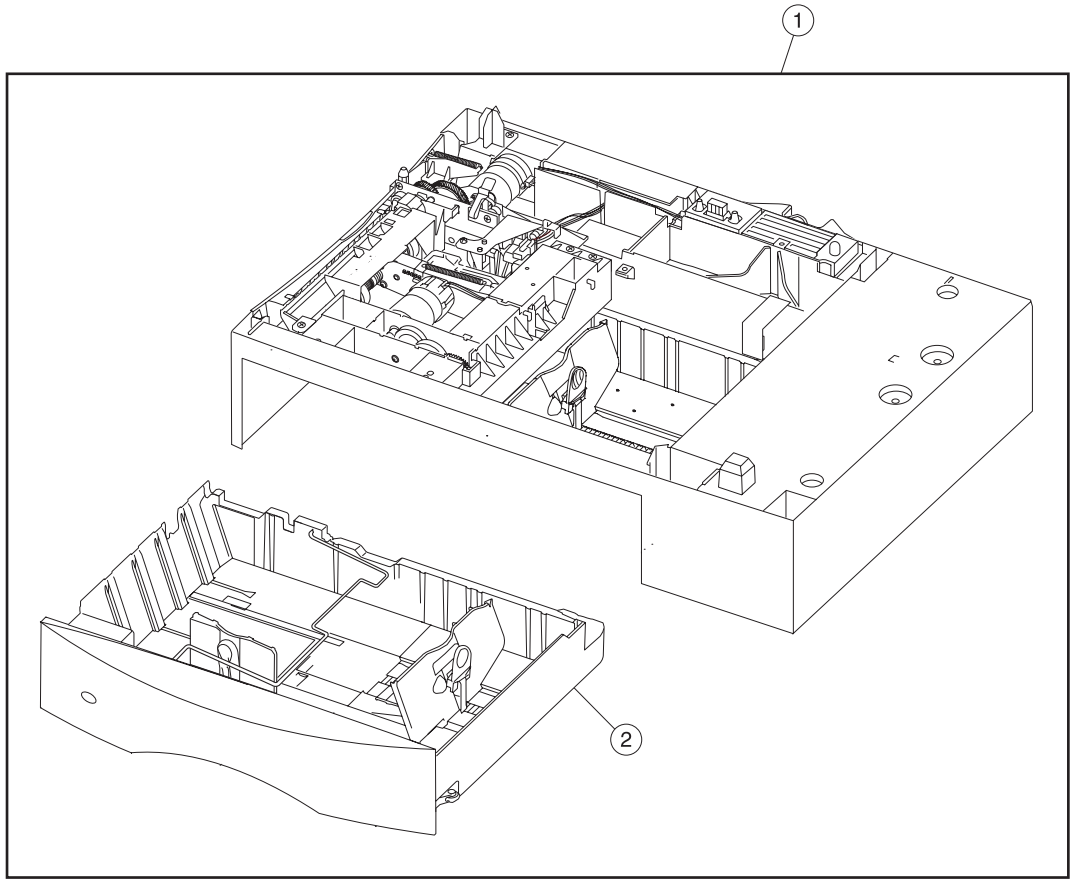
Assembly 34: Envelope option



Assembly 34: Envelope option

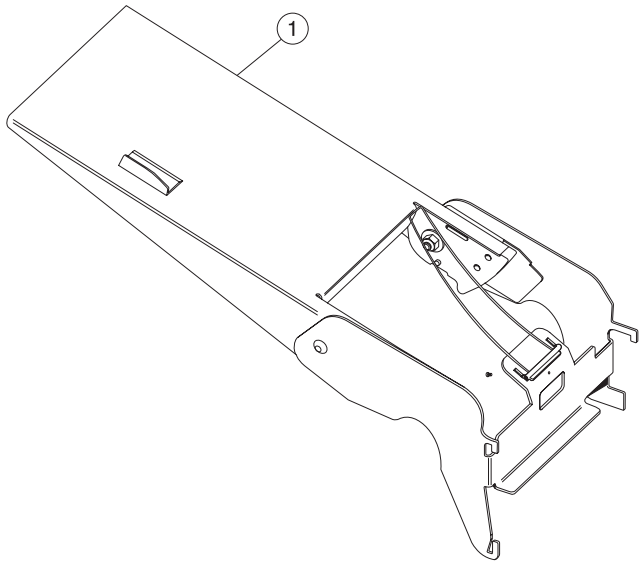
Asm-index	Part number	Units	Description
34–1	56P2890	1	Envelope option (complete)
2	56P2891	1	Envelope tray assembly

Assembly 35: Outdoor media tray option



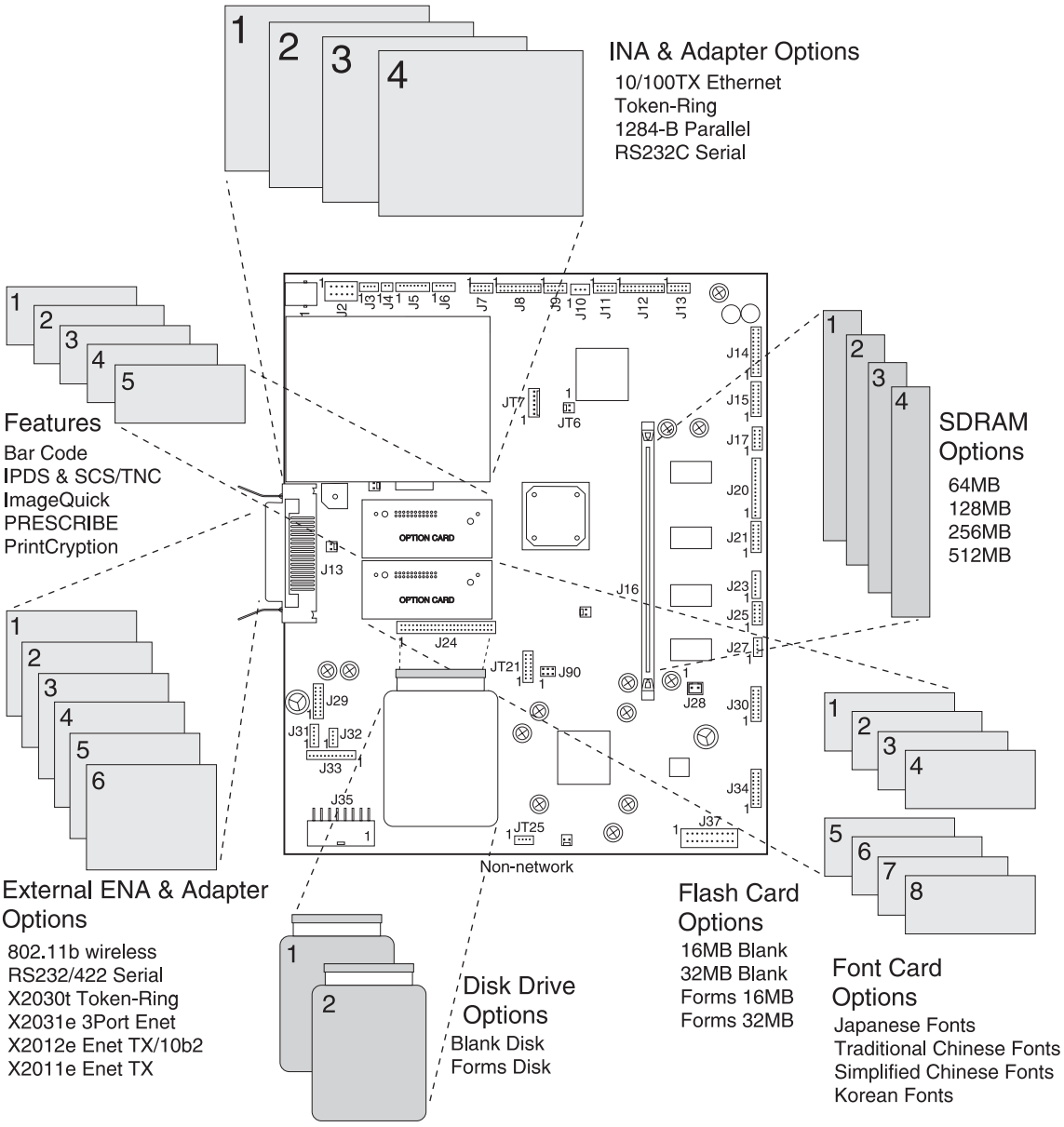
Asm-index	Part number	Units	Description
35–1	56P2892	1	Outdoor media drawer assembly
2	56P2893	1	Outdoor media tray assembly

Assembly 36: Banner option



Asm-index	Part number	Units	Description
36–1	56P2894	1	Banner input assembly

Assembly 37: Options



Assembly 37: Options

Asm-index	Part number	Units	Description
NS	12G6509	1	64MB SDRAM card assembly
NS	56P9910	1	128MB SDRAM card assembly
NS	56P9911	1	256MB SDRAM card assembly
NS	56P2223	1	512MB SDRAM card assembly
NS	56P1417	1	16MB Flash DIMM card assembly
NS	56P1418	1	32MB Flash DIMM card assembly
NS	56P1430	1	Traditional Chinese font DIMM card assembly
NS	56P1429	1	Simplified Chinese font DIMM card assembly
NS	56P1437	1	Adapter, parallel 1284-B
NS	56P9982	1	Hard Disk, 20GB with/Adapter (formatted)
NS	56P9926	1	Lexmark Optra Forms™ Software
NS	56P9927	1	Lexmark Forms Director Software
NS	56P1428	1	Lexmark Forms 16MB Flash DIMM
NS	56P1427	1	Lexmark Forms 32MB Flash DIMM
NS	56P9942	1	Hard Drive Mounting Kit
NS	56P1741	1	MarkNet™ Token-Ring Print Internal Server
NS	56P1431	1	MarkNet X2011e Ethernet 10/100BaseTX - 1 Port External Server
NS	56P1432	1	MarkNet X2012e Ethernet 10BaseT/2 10BaseTX/10Base 2 - 1 Port External Server
NS	56P1435	1	External serial adapter (RS 232)
NS	56P0159	1	Coax/Twinax adapter for SCS
NS	56P1436	1	RS-232 serial interface card
NS	56P3090	1	IPDS/SCS card assembly
NS	56P1438	1	Japanese font card assembly
NS	56P2231	1	Korean font card assembly card assembly
NS	56P3142	1	PrintCryption™ card assembly
NS	56P3143	1	Bar code card assembly
NS	56P3302	1	ImageQuick™ card assembly
NS	56P3303	1	PRESCRIBE card assembly
NS	56P1433	1	MarkNet X2031e Ethernet 10/100BaseTX - 3 Port External Server
NS	56P1434	1	MarkNet X2030t Token-Ring External Server
NS	56P1742	1	MarkNet N2101e Ethernet 10/100BaseTX Internal Server
NS	56P9932	1	Lexmark Forms hard disk, 5GB or larger w/adapter

Assembly 38: Miscellaneous

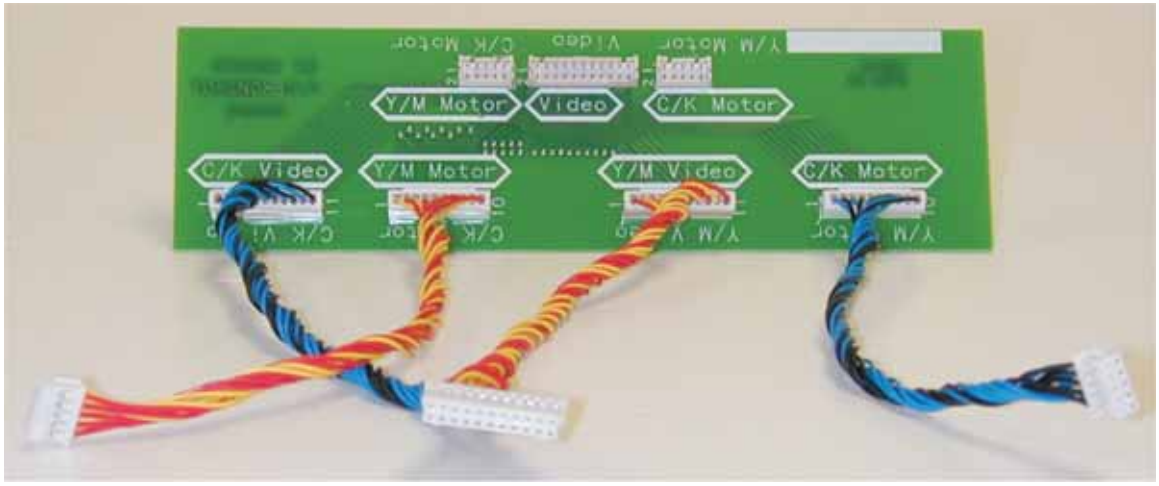
Asm-index	Part number	Units	Description
NS		1	Screw type 323, parts packet 12G6309
NS		1	Screw type 324, parts packet 12G6530
NS		1	Screw type 232, parts packet 12G6531
NS		1	Screw type 102, parts packet 12G6532
NS		1	Screw type 312/322/412/423, parts packet 12G6533
NS		1	Screw type 484, parts packet 12G6534
NS		1	Screw, 500-sheet tray, parts packet 12G6538
NS		1	Screw type 124, parts packet 12G6539
NS		1	Screw type 121, parts packet 12G6540
NS	7371549	1	Kit, relocation package assembly printer
NS	7370563	1	Kit, relocation package assembly output expander
NS	7370564	1	Kit, relocation package assembly 5-bin mailbox
NS	7370565	1	Kit, relocation package assembly 500 drawer
NS	7370566	1	Kit, relocation package assembly duplex
NS	7370595	1	Kit, relocation package assembly finisher

Appendix A—Service tips

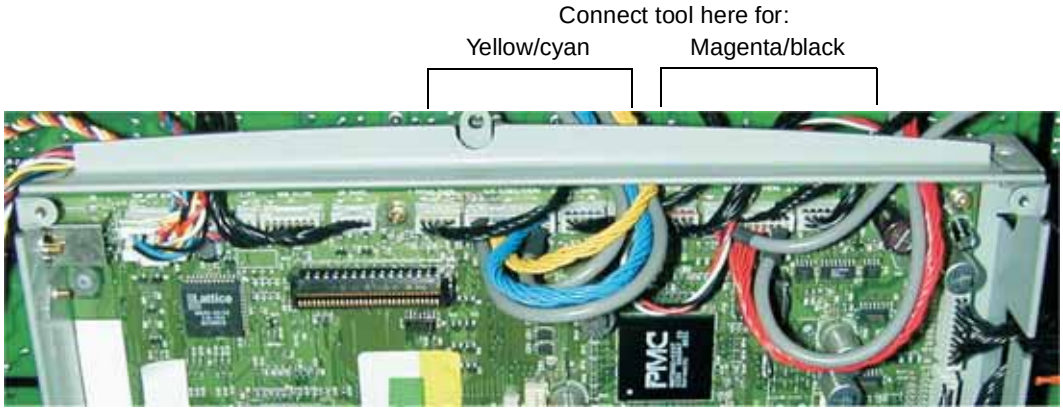
Printhead diagnostics

If you get a printhead error, follow this diagnostic to find the specific failure.

1. Verify all the printhead cables are properly seated.
   If the printhead cables are properly seated and the error remains, record the error code. Continue to the next step.
2. Determine how to setup the printhead diagnostic tool.
   a. Verify the printhead diagnostic tool is configured as in following illustration. Reconfigure if necessary.



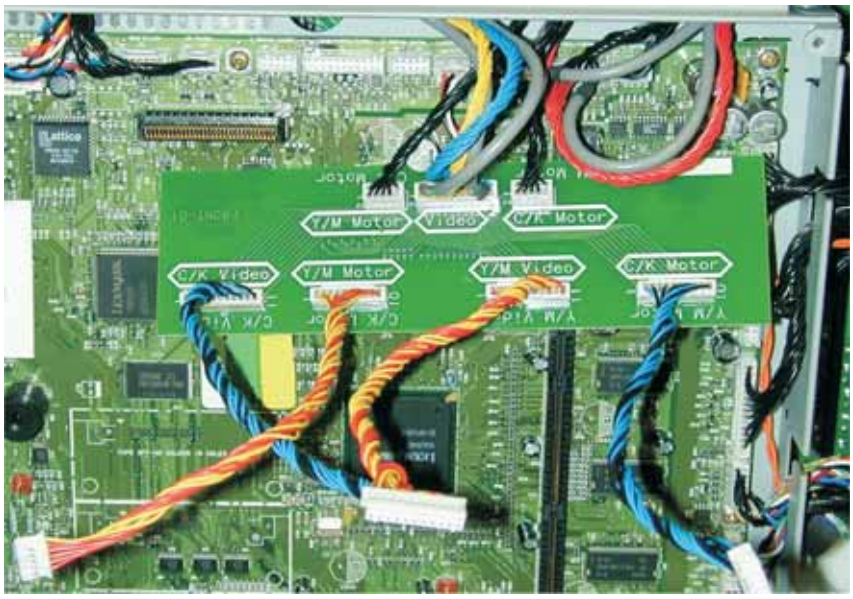
   b. Select which pair of printheads to use based on the error code.
   If the printer displays the codes that indicate yellow or cyan, use the tool to switch the yellow and cyan signals. If the error codes indicated a magenta or black error, use the tool to switch the magenta and black signals.



3. Install the printhead diagnostic tool and determine the problem.
The following procedure shows the yellow and cyan switch as an example.

a. Turn off the printer.

b. Unplug the printhead cables from the system board and connect them to the printhead diagnostic tool.



c. Connect the printhead diagnostic tool cables to the connectors on the system board. This reverses the printhead color signals for the selected pair of colors.

d. Turn on the printer and note the new error codes.

- If an automatic calibration begins, **36 Printer Service Required** may appear. The printhead and system board are working correctly and the printhead cable connections should be checked. Press **Go** to clear the error.
- If the error code remains the same, replace the **"System board"**. If that solves the problem, you are finished.
- If the printer displays a different printhead error code, which indicates another color, the printhead or the printhead cables are defective. See the following table for the printhead codes.

For example, the printer originally displays the printhead error code **108** (yellow). After switching the signals using the diagnostic tool, the printer displays the printhead error code **106** (cyan).

	Printhead error codes		Printhead error codes	
	Yellow	Cyan	Magenta	Black (K)
For 10x errors	108	106	107	109
For 11x errors	117	115	116	114
For errors 169–175	175	171	173	169
Not commonly seen	176	172	174	170

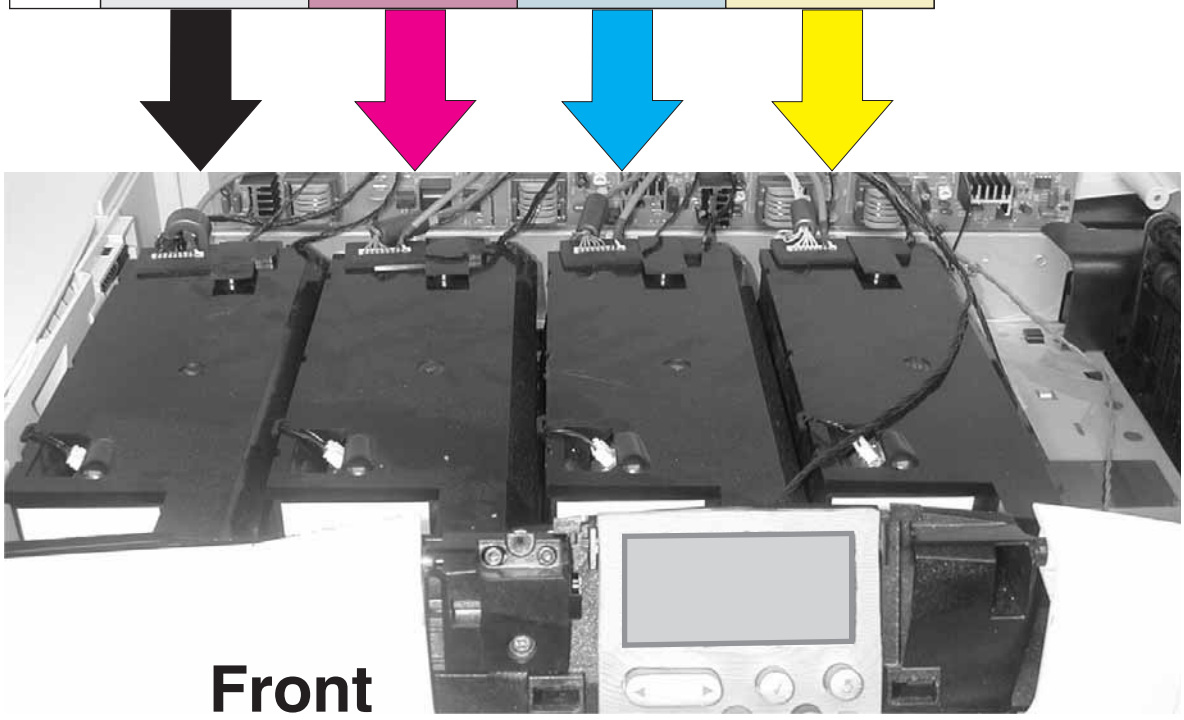
4. Remove the printhead diagnostic tool.

5. The problem is in either the printhead cables or the printhead. Replace the printhead cables. If the problem persists, replace the printhead. See **"Printhead removal and adjustments" on page 4-60**.

Note: Replace and adjust only one printhead at a time.

Identifying the printheads

	Black (K)	Magenta (M)	Cyan (C)	Yellow (Y)
Printhead error codes	109	107	106	108
	114	116	115	117
	169	173	171	175
	170	174	172	176



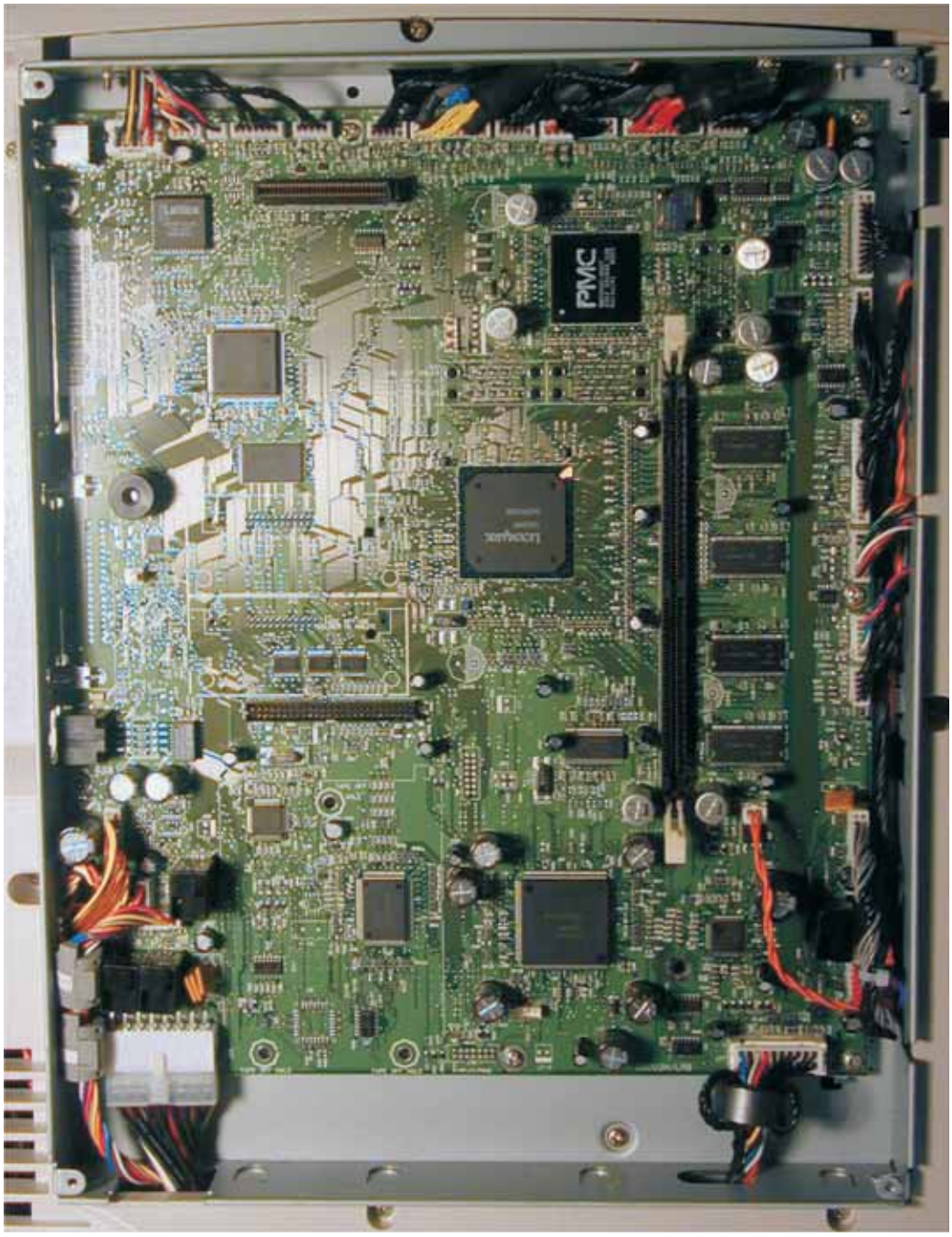
Warning: Do not loosen or remove all printheads at the same time. If all printheads are loosened or removed, your reference to readjust will be lost.

Notes:

- Whenever a printhead is removed, it is necessary to perform the **"Printhead mechanical alignment"** and **"Printhead electronic alignment"**.
- The front cover must be installed and closed before any printhead alignment can be performed. It is not necessary to remove the cover to access the printheads.
- If there is a protective lens cover on the new printhead, it must be removed before installing the replacement printhead.

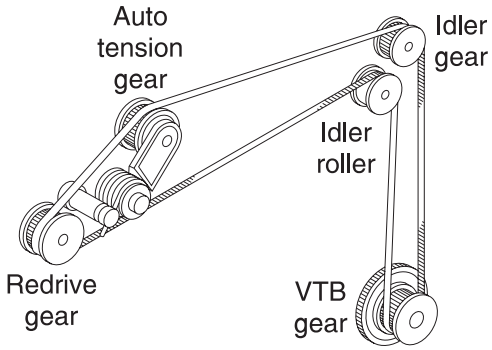
System board cabling reference

See **“System board - non-network” on page 5-6** or **“System board - network” on page 5-7** for connections. Refer to the System board wiring diagram for additional details.

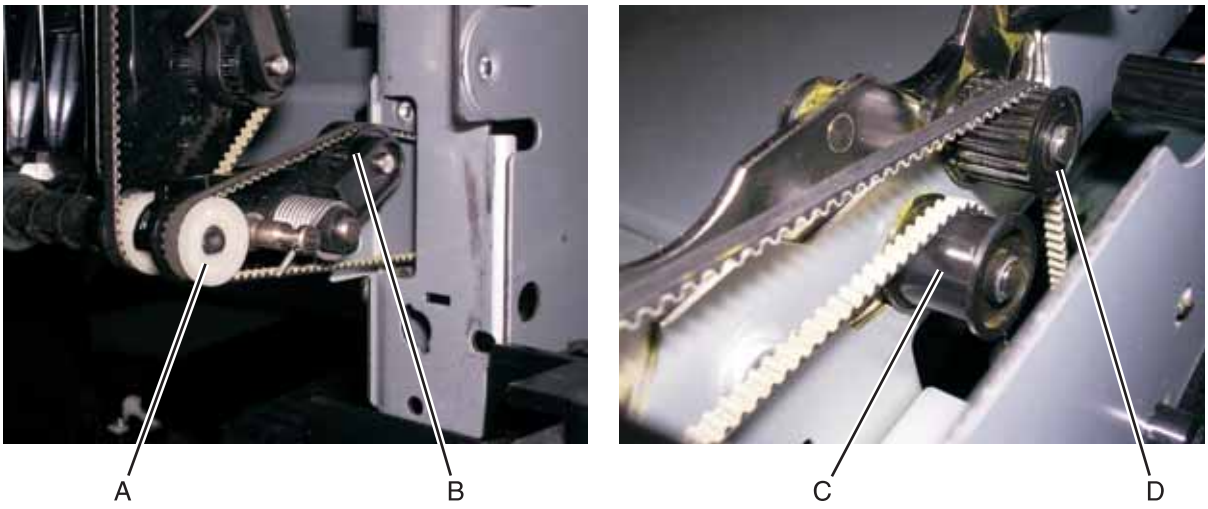


Redrive belt routing

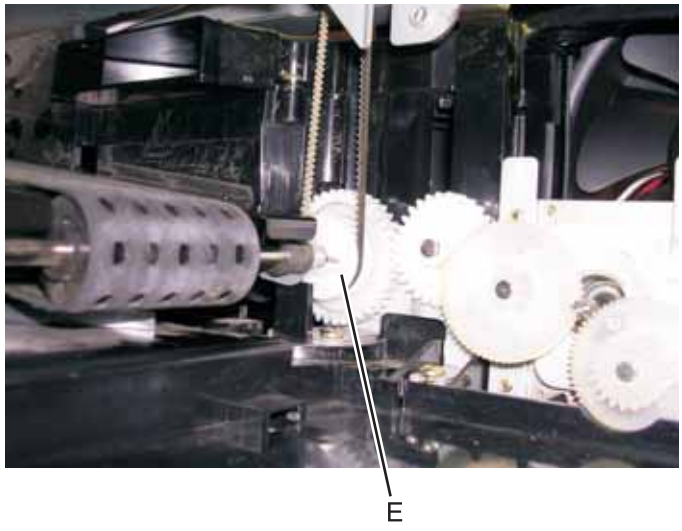
If the redrive belt has been removed, use the diagram and information to properly route the belt. The idler gear roller in these photos is only visible because the printer has been disassembled to the frame. The gear will have to be located by feel to ensure proper installation.



- Redrive gear (A) and auto tension gear (B) properly routed.
- Redrive belt properly routed on the idler gear (C) and the roller (D).



- Redrive belt properly routed on the vacuum transfer belt (VTB) gear (E).



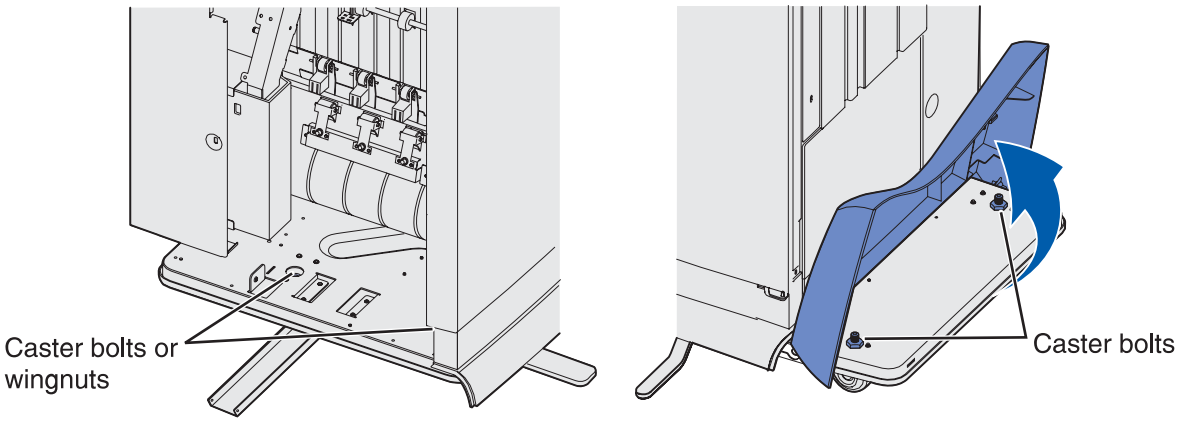
Finisher alignment

This tip provides detailed instructions for aligning the finisher to the printer.

The sides of the finisher must be parallel with the printer and at the same height, or you may have paper feeding problems.

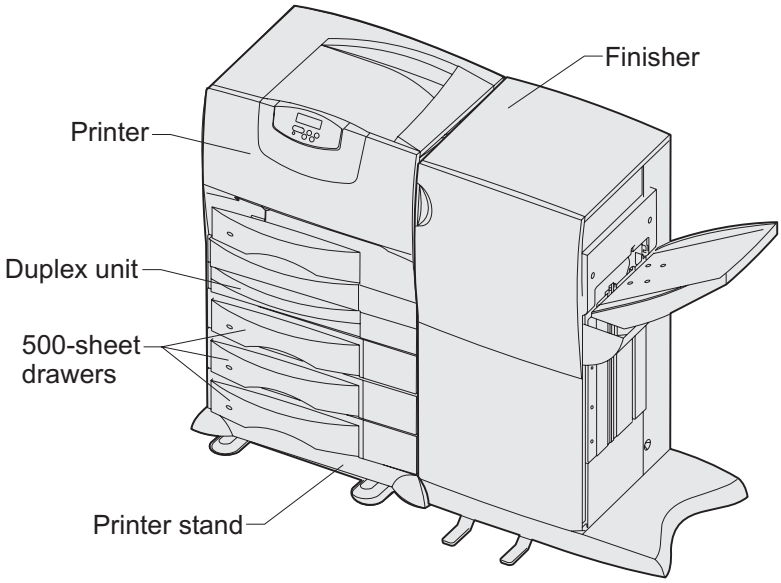
There are four locations where adjustments can be made to correctly align the finisher with the printer. There are two adjustment casters on the left (the side closest to the printer) and two on the right, underneath the platform cover.

Note: The short finisher left casters adjust with caster bolts, while the tall finisher left casters adjust with wingnuts.

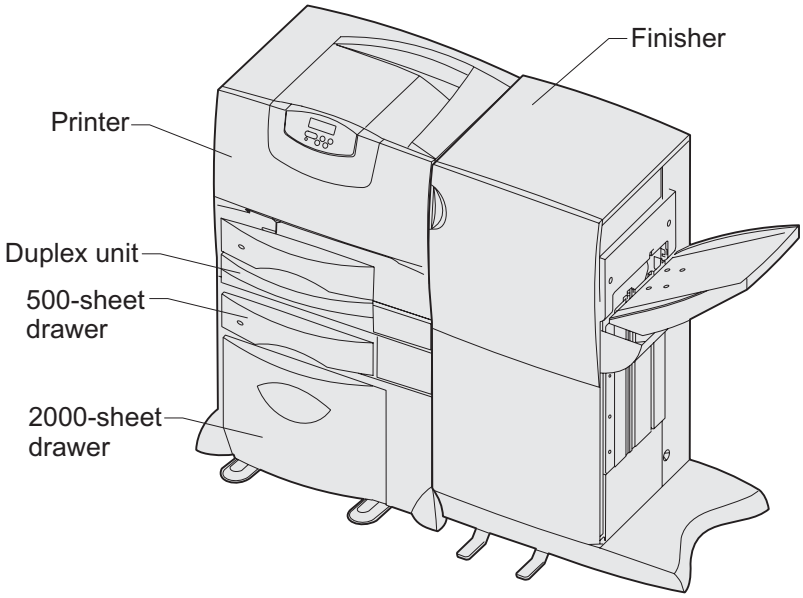


How the casters are adjusted depends on whether you have the short or tall finisher.

- **Short finisher**
  - Printer
  - Optional duplex unit
  - Three additional 500-sheet drawers
  - Printer stand
  - Finisher



- **Tall finisher**
  - Printer
  - Optional duplex unit
  - One additional 500-sheet drawer
  - Optional 2000-sheet drawer
  - Finisher

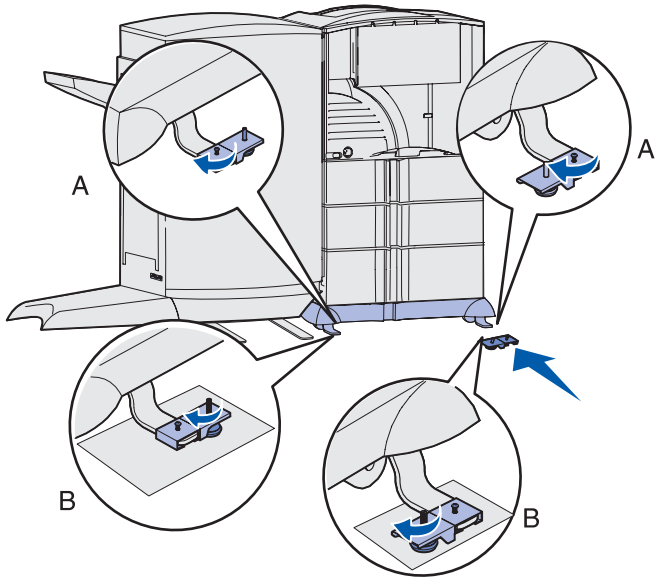


Step 1: Secure the printer

Completely stabilize the printer before the finisher alignment process is started. How this is done depends on whether you have a short or tall finisher.

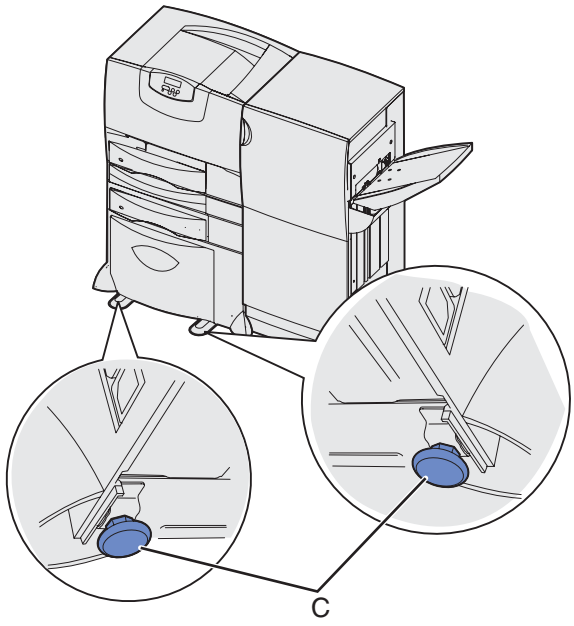
Short finisher

1. Attach caster brakes (A) to the two back legs of the printer caster base.
2. Screw the caster brakes onto the legs of the caster base.
3. Adjust the leveling feet (B) on the caster brakes so they securely touch the floor.



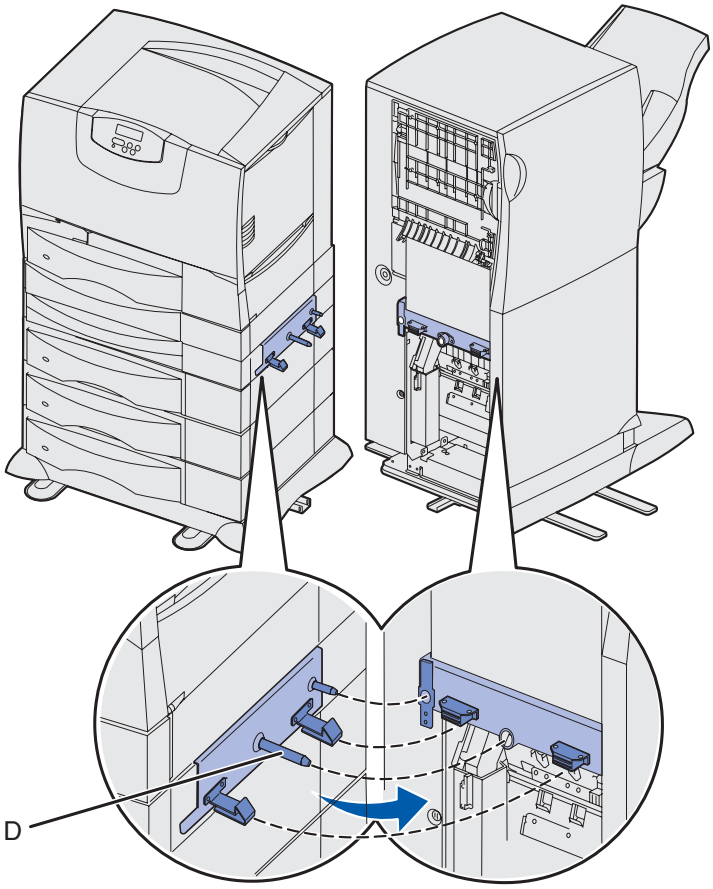
Tall finisher

Adjust the four leveling feet (C) on the bottom of the 2000-sheet drawer so all four securely touch the floor.



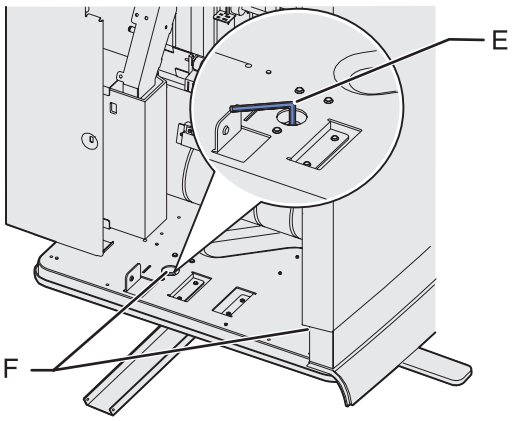
Step 2: Align the pin

Adjust the two casters on the left side (closest to the printer) to raise or lower the finisher as needed, so the pin (D) on the printer properly aligns with the hole in the finisher (the pin should freely slide into the hole).



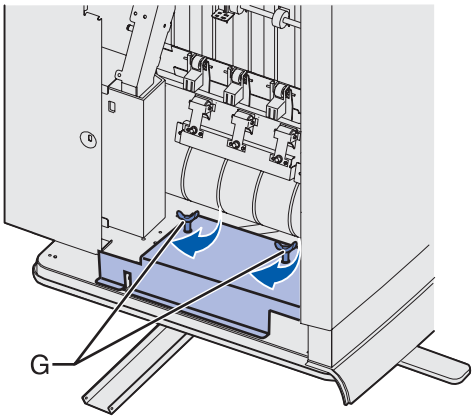
Short finisher

1. Insert the Allen wrench (E) into either caster bolt (F).
2. Rotate the wrench in the appropriate direction to adjust the height of the finisher (clockwise raises the finisher).
3. Repeat with the other caster bolt.



Tall finisher

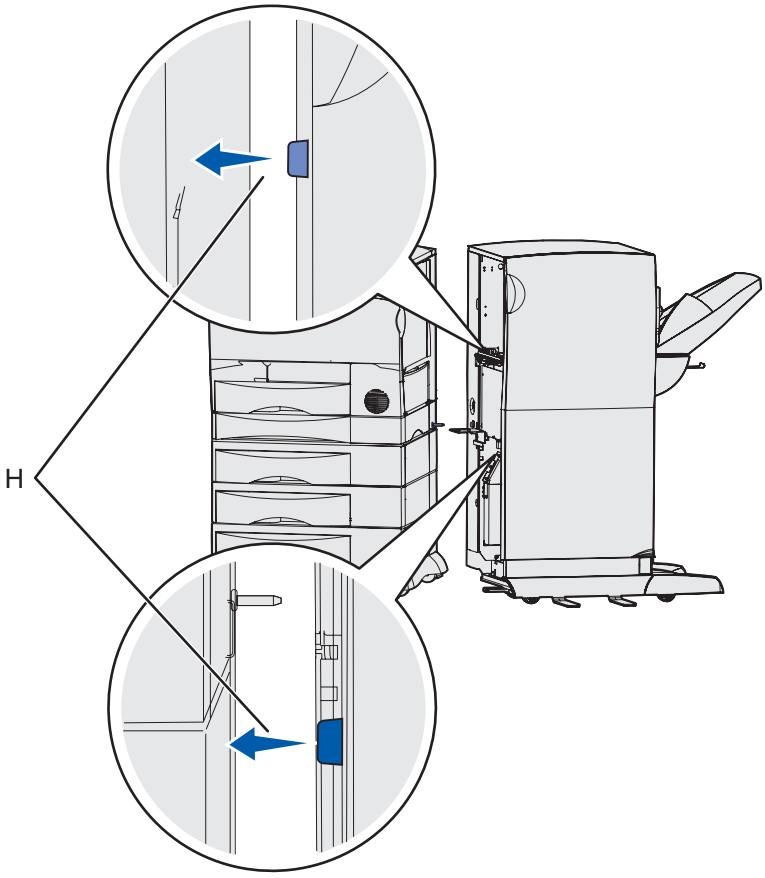
Loosen or tighten the wingnuts (G) to adjust the height of the finisher (clockwise raises the finisher).



Step 3: Align the bumper pads

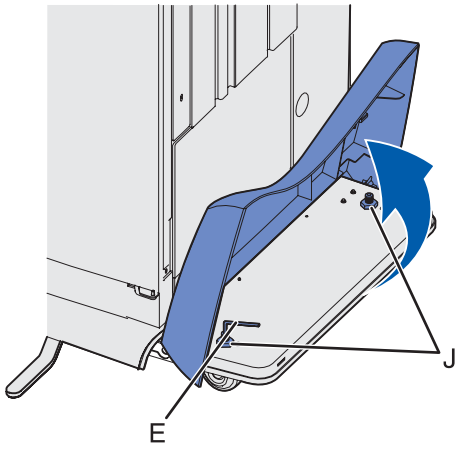
Adjust the two casters on the right side (under the platform cover) to raise or lower the finisher as needed so the two bumper pads on the finisher lightly touch the printer.

This ensures that the gap (H) between the printer and finisher is the same from top to bottom.



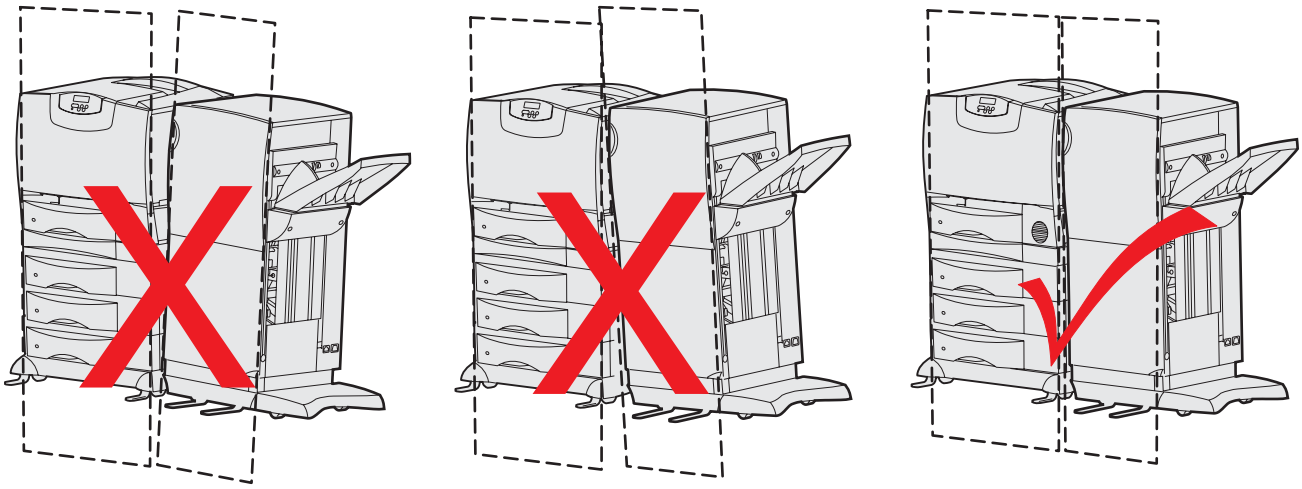
Short and tall finisher

1. Lift the platform cover.
2. Insert the Allen wrench (E) into either caster bolt (J).
3. Rotate the wrench in the appropriate direction to adjust the height of the finisher (clockwise raises the finisher).
4. Repeat with the other caster bolt.



Step 4: Adjust the tilt

If necessary, adjust the tilt of the finisher so that the front is flush with the front of the printer. This can usually be done by adjusting the two front casters (those closest to the finisher door).

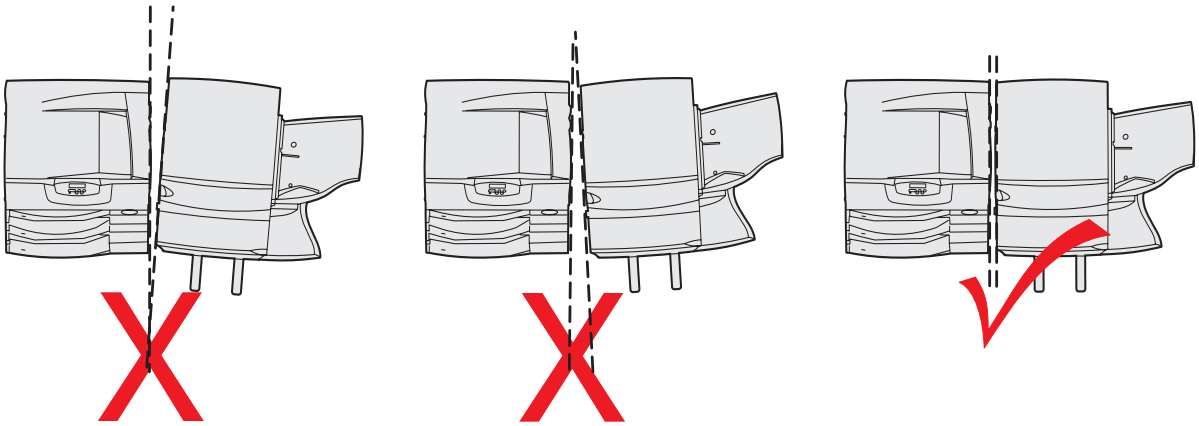


Note: When adjusting the tilt, be sure that the adjustments made in steps 1 and 2 are maintained. Additional adjustments may be necessary in those locations.

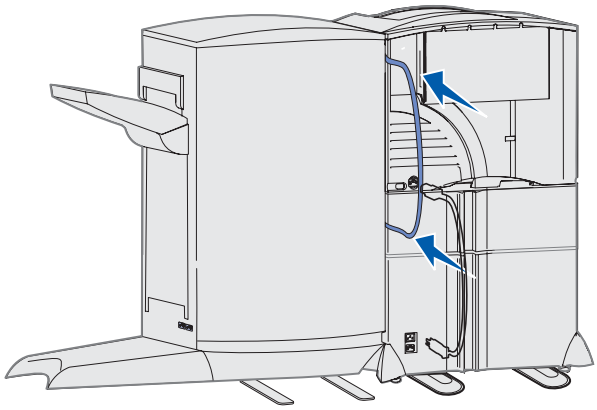
If the finisher wobbles after making adjustments in steps 1, 2, and 3, make sure each caster touches the floor.

Step 5: Connect the finisher and printer

Push the finisher against the printer, making sure the gap in the front is the same as the gap in the back.



When adjoining the finisher and the printer, make sure that the finisher cable is out of the way of the paper path. If the cable folds itself between the finisher and the printer, disconnect the cable, twist it one time, and then reconnect it. This may help the cable bend the other direction.



Finisher alignment quick check

Use this table to make sure all alignments have been made.

Make sure:	**To make adjustments, see:**
1. The printer is secured to the floor.	**“Step 1: Secure the printer” on appendix page A-9**
2. The finisher’s height is correct. The pin should align with the hole in the finisher, and the finisher should easily dock to the printer without interference or binding with the pin.	**“Step 2: Align the pin” on appendix page A-10**
3. The finisher is vertically aligned to the printer. The finisher's two bumper pads should lightly touch the printer.	**“Step 3: Align the bumper pads” on appendix page A-11**
4. The finisher's tilt is correct. The printer and finisher's front covers should be flush together at top and bottom. If you run your hand across them from side to side they should feel as if they are one part.	**“Step 4: Adjust the tilt” on appendix page A-12**
5. The finisher is squarely docked to the printer. The printer and finisher's top covers should have the same distance between them at the front and rear when docked.	**“Step 5: Connect the finisher and printer” on appendix page A-13**

Duplex option deflector button replacement

230 Paper Jam - duplex deflector fails

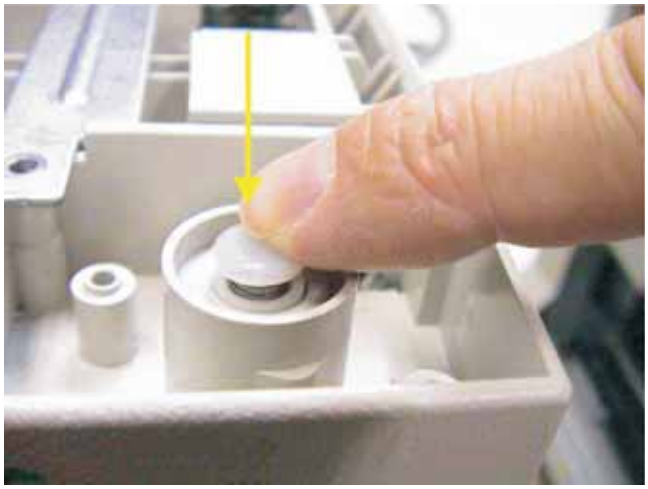
During a duplex job, the duplex option fails to actuate the deflector in the fuser and the paper is diverted away from the duplex. The duplex option does not receive the sheet and prompts a 230 Paper Jam message. Replace the rubber deflector button with the enclosed compression spring deflector button.

Replacing the button

1. The FRU kit contains two parts that should be assembled as shown.

2. Remove the deflector button by pulling up.

3. Place the new button into the cam.

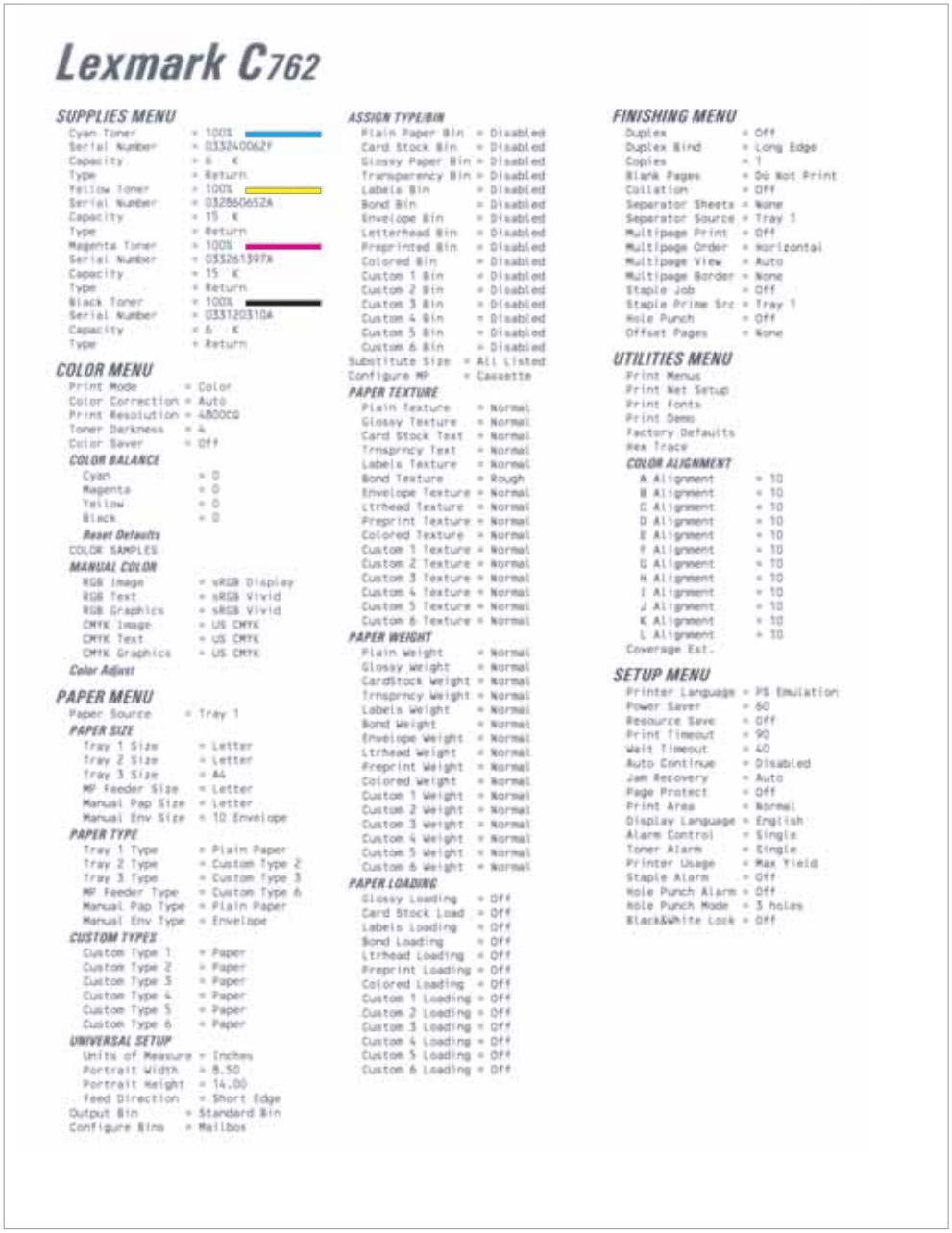


4. Verify the new button moves freely by pressing the button firmly down and watching it snap back.
Note: Leave the button in the up position.

Appendix B—Print quality samples

The following pages represent some of the pages available in various menus. While they are as close as possible to what you will see, variations in printing may result from individual user printer settings, media, and printer alignment.

Print Menus—Page one of two



Lexmark C762

SUPPLIES MENU
Cyan Toner = 100%
Serial Number = 033240062F
Capacity = 6 K
Type = Return
Yellow Toner = 100%
Serial Number = 032B60652A
Capacity = 15 K
Type = Return
Magenta Toner = 100%
Serial Number = 033261397A
Capacity = 15 K
Type = Return
Black Toner = 100%
Serial Number = 033120310A
Capacity = 6 K
Type = Return

COLOR MENU
Print Mode = Color
Color Correction = Auto
Print Resolution = 4800CQ
Toner Darkness = 4
Color Saver = Off
COLOR BALANCE
Cyan = 0
Magenta = 0
Yellow = 0
Black = 0
Reset Defaults
COLOR SAMPLES
MANUAL COLOR
RGB Image = sRGB Display
RGB Text = sRGB Vivid
RGB Graphics = sRGB Vivid
CMYK Image = US CMYK
CMYK Text = US CMYK
CMYK Graphics = US CMYK
Color Adjust

PAPER MENU
Paper Source = Tray 1
PAPER SIZE
Tray 1 Size = Letter
Tray 2 Size = Letter
Tray 3 Size = A4
MP Feeder Size = Letter
Manual Pap Size = Letter
Manual Env Size = 10 Envelope
PAPER TYPE
Tray 1 Type = Plain Paper
Tray 2 Type = Custom Type 2
Tray 3 Type = Custom Type 3
MP Feeder Type = Custom Type 6
Manual Pap Type = Plain Paper
Manual Env Type = Envelope
CUSTOM TYPES
Custom Type 1 = Paper
Custom Type 2 = Paper
Custom Type 3 = Paper
Custom Type 4 = Paper
Custom Type 5 = Paper
Custom Type 6 = Paper
UNIVERSAL SETUP
Units of Measure = Inches
Portrait Width = 8.50
Portrait Height = 14.00
Feed Direction = Short Edge
Output Bin = Standard Bin
Configure Bins = Mailbox

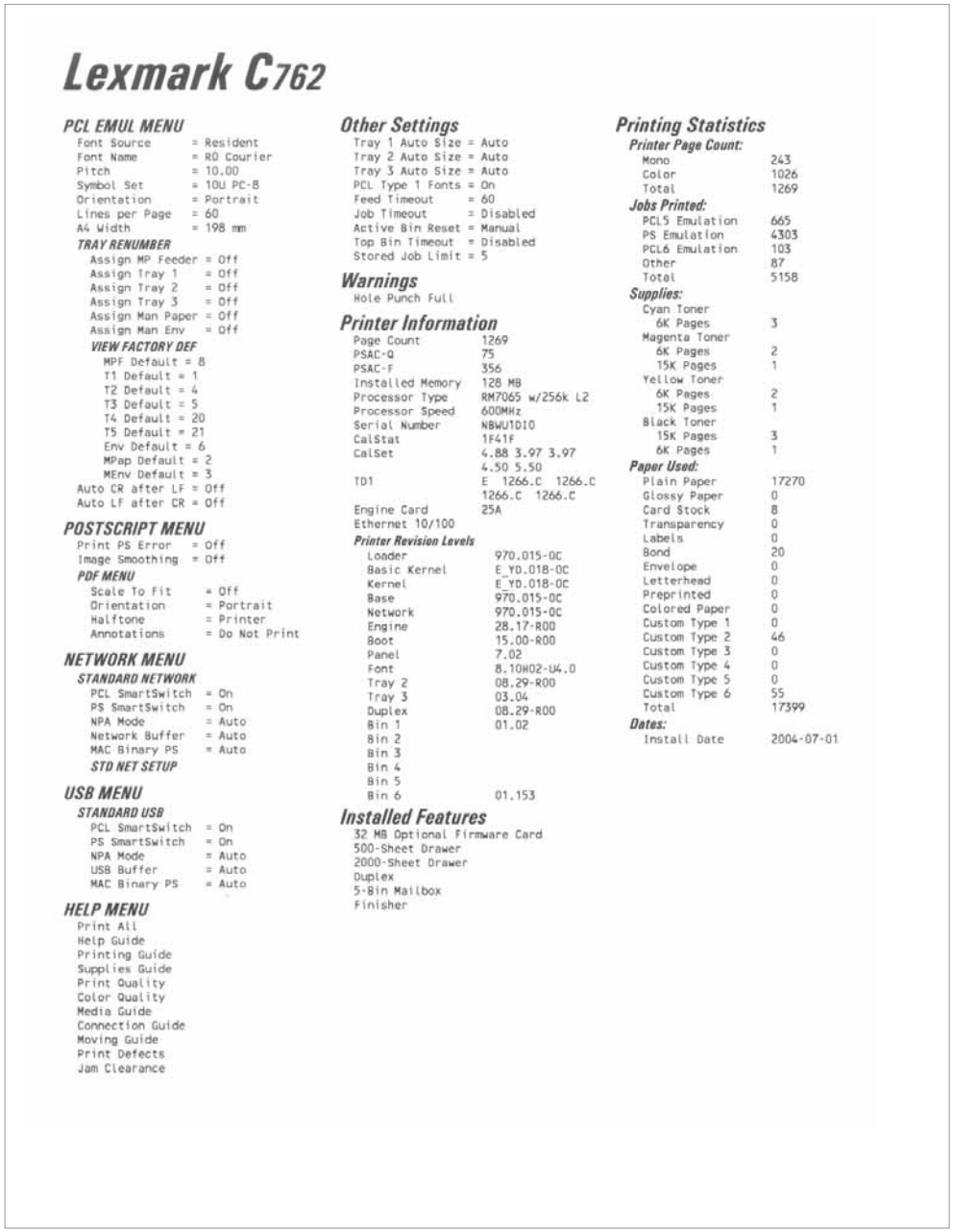
ASSIGN TYPE/BIN
Plain Paper Bin = Disabled
Card Stock Bin = Disabled
Glossy Paper Bin = Disabled
Transparency Bin = Disabled
Labels Bin = Disabled
Bond Bin = Disabled
Envelope Bin = Disabled
Letterhead Bin = Disabled
Preprinted Bin = Disabled
Colored Bin = Disabled
Custom 1 Bin = Disabled
Custom 2 Bin = Disabled
Custom 3 Bin = Disabled
Custom 4 Bin = Disabled
Custom 5 Bin = Disabled
Custom 6 Bin = Disabled
Substitute Size = All Listed
Configure MP = Cassette
PAPER TEXTURE
Plain Texture = Normal
Glossy Texture = Normal
Card Stock Text = Normal
Trnsprncy Text = Normal
Labels Texture = Normal
Bond Texture = Rough
Envelope Texture = Normal
Ltrhead Texture = Normal
Preprint Texture = Normal
Colored Texture = Normal
Custom 1 Texture = Normal
Custom 2 Texture = Normal
Custom 3 Texture = Normal
Custom 4 Texture = Normal
Custom 5 Texture = Normal
Custom 6 Texture = Normal
PAPER WEIGHT
Plain Weight = Normal
Glossy Weight = Normal
CardStock Weight = Normal
Trnsprncy Weight = Normal
Labels Weight = Normal
Bond Weight = Normal
Envelope Weight = Normal
Ltrhead Weight = Normal
Preprint Weight = Normal
Colored Weight = Normal
Custom 1 Weight = Normal
Custom 2 Weight = Normal
Custom 3 Weight = Normal
Custom 4 Weight = Normal
Custom 5 Weight = Normal
Custom 6 Weight = Normal
PAPER LOADING
Glossy Loading = Off
Card Stock Load = Off
Labels Loading = Off
Bond Loading = Off
Ltrhead Loading = Off
Preprint Loading = Off
Colored Loading = Off
Custom 1 Loading = Off
Custom 2 Loading = Off
Custom 3 Loading = Off
Custom 4 Loading = Off
Custom 5 Loading = Off
Custom 6 Loading = Off

FINISHING MENU
Duplex = Off
Duplex Bind = Long Edge
Copies = 1
Blank Pages = Do Not Print
Collation = Off
Separator Sheets = None
Separator Source = Tray 1
Multipage Print = Off
Multipage Order = Horizontal
Multipage View = Auto
Multipage Border = None
Staple Job = Off
Staple Prime Src = Tray 1
Hole Punch = Off
Offset Pages = None

UTILITIES MENU
Print Menus
Print Net Setup
Print Fonts
Print Demo
Factory Defaults
Hex Trace
COLOR ALIGNMENT
A Alignment = 10
B Alignment = 10
C Alignment = 10
D Alignment = 10
E Alignment = 10
F Alignment = 10
G Alignment = 10
H Alignment = 10
I Alignment = 10
J Alignment = 10
K Alignment = 10
L Alignment = 10
Coverage Est.

SETUP MENU
Printer Language = PS Emulation
Power Saver = 60
Resource Save = Off
Print Timeout = 90
Wait Timeout = 40
Auto Continue = Disabled
Jam Recovery = Auto
Page Protect = Off
Print Area = Normal
Display Language = English
Alarm Control = Single
Toner Alarm = Single
Printer Usage = Max Yield
Staple Alarm = Off
Hole Punch Alarm = Off
Hole Punch Mode = 3 holes
Black&White Lock = Off

Print Menus—Page two of two



Lexmark C762

PCL EMUL MENU

Font Source	= Resident
Font Name	= R0 Courier
Pitch	= 10.00
Symbol Set	= 10U PC-8
Orientation	= Portrait
Lines per Page	= 60
A4 Width	= 198 mm

TRAY RENUMBER

Assign MP Feeder	= Off
Assign Tray 1	= Off
Assign Tray 2	= Off
Assign Tray 3	= Off
Assign Man Paper	= Off
Assign Man Env	= Off

VIEW FACTORY DEF

MPF Default = 8
T1 Default = 1
T2 Default = 4
T3 Default = 5
T4 Default = 20
T5 Default = 21
Env Default = 6
MPap Default = 2
MEnv Default = 3

Auto CR after LF = Off
Auto LF after CR = Off

POSTSCRIPT MENU

Print PS Error	= Off
Image Smoothing	= Off

PDF MENU

Scale To Fit	= Off
Orientation	= Portrait
Halftone	= Printer
Annotations	= Do Not Print

NETWORK MENU

STANDARD NETWORK

PCL SmartSwitch	= On
PS SmartSwitch	= On
NPA Mode	= Auto
Network Buffer	= Auto
MAC Binary PS	= Auto

STD NET SETUP

USB MENU

STANDARD USB

PCL SmartSwitch	= On
PS SmartSwitch	= On
NPA Mode	= Auto
USB Buffer	= Auto
MAC Binary PS	= Auto

HELP MENU

Print All
Help Guide
Printing Guide
Supplies Guide
Print Quality
Color Quality
Media Guide
Connection Guide
Moving Guide
Print Defects
Jam Clearance

Other Settings

Tray 1 Auto Size	= Auto
Tray 2 Auto Size	= Auto
Tray 3 Auto Size	= Auto
PCL Type 1 Fonts	= On
Feed Timeout	= 60
Job Timeout	= Disabled
Active Bin Reset	= Manual
Top Bin Timeout	= Disabled
Stored Job Limit	= 5

Warnings

Hole Punch Full

Printer Information

Page Count	1269
PSAC-Q	75
PSAC-F	356
Installed Memory	128 MB
Processor Type	RM7065 w/256k L2
Processor Speed	600MHz
Serial Number	NBWU1D10
CalStat	1F41F
CalSet	4.88 3.97 3.97 4.50 5.50
TD1	E 1266.C 1266.C 1266.C 1266.C
Engine Card	25A
Ethernet 10/100	

Printer Revision Levels

Loader	970.015-0C
Basic Kernel	E_YD.018-0C
Kernel	E_YD.018-0C
Base	970.015-0C
Network	970.015-0C
Engine	28.17-R00
Boot	15.00-R00
Panel	7.02
Font	8.10H02-U4.0
Tray 2	08.29-R00
Tray 3	03.04
Duplex	08.29-R00
Bin 1	01.02
Bin 2	
Bin 3	
Bin 4	
Bin 5	
Bin 6	01.153

Installed Features

32 MB Optional Firmware Card
500-Sheet Drawer
2000-Sheet Drawer
Duplex
5-Bin Mailbox
Finisher

Printing Statistics

Printer Page Count:

Mono	243
Color	1026
Total	1269

Jobs Printed:

PCL5 Emulation	665
PS Emulation	4303
PCL6 Emulation	103
Other	87
Total	5158

Supplies:

Cyan Toner	
6K Pages	3
Magenta Toner	
6K Pages	2
15K Pages	1
Yellow Toner	
6K Pages	2
15K Pages	1
Black Toner	
15K Pages	3
6K Pages	1

Paper Used:

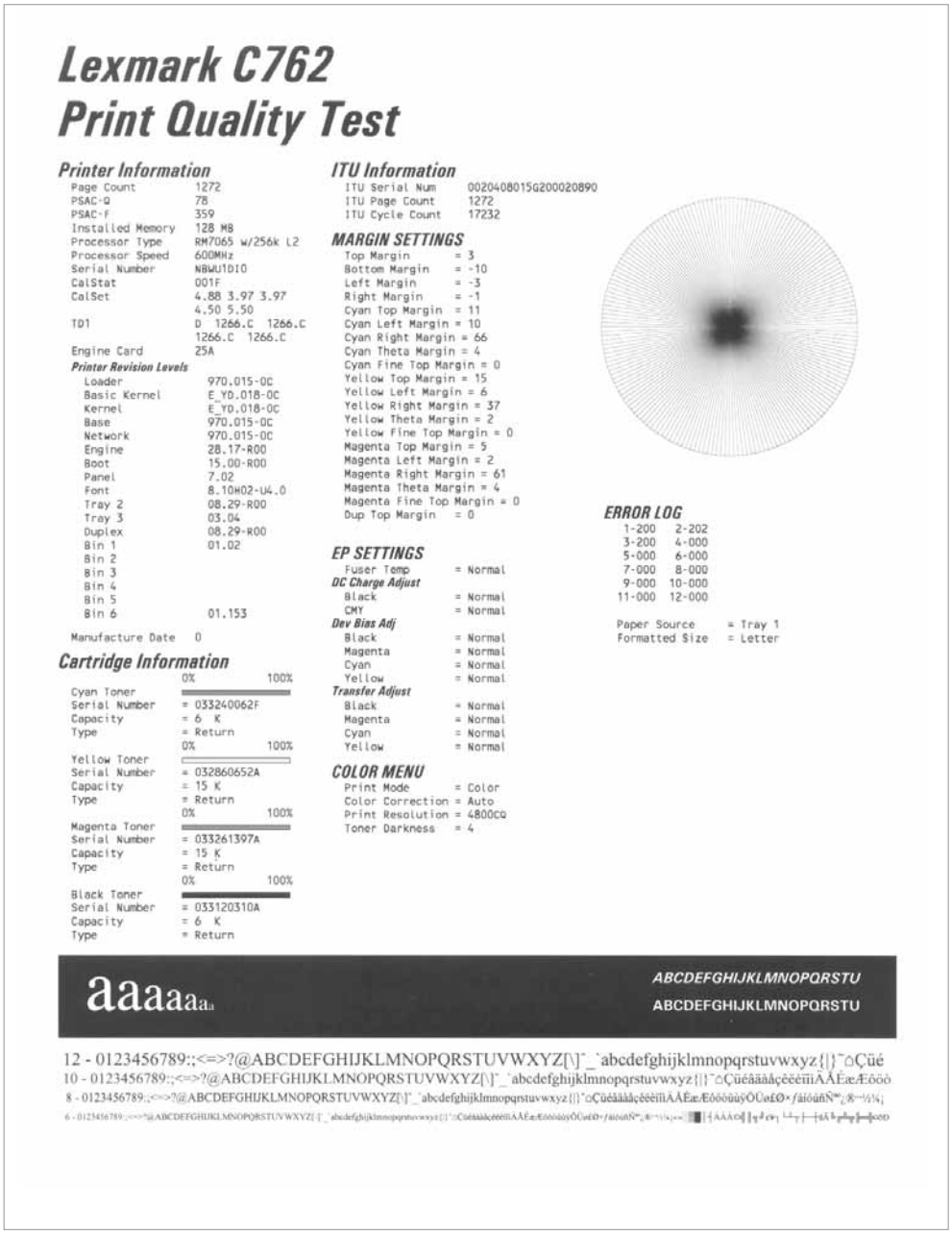
Plain Paper	17270
Glossy Paper	0
Card Stock	8
Transparency	0
Labels	0
Bond	20
Envelope	0
Letterhead	0
Preprinted	0
Colored Paper	0
Custom Type 1	0
Custom Type 2	46
Custom Type 3	0
Custom Type 4	0
Custom Type 5	0
Custom Type 6	55
Total	17399

Dates:

Install Date	2004-07-01

Print tests

Print Quality Pages—Title page (total of five)



Lexmark C762
Print Quality Test

Printer Information

Page Count	1272
PSAC-Q	78
PSAC-F	359
Installed Memory	128 MB
Processor Type	RM7065 w/256k L2
Processor Speed	600MHz
Serial Number	NBWU1D10
CalStat	001F
CalSet	4.88 3.97 3.97 4.50 5.50
TD1	D 1266.C 1266.C 1266.C 1266.C
Engine Card	25A

Printer Revision Levels

Loader	970.015-0C
Basic Kernel	E_YD.018-0C
Kernel	E_YD.018-0C
Base	970.015-0C
Network	970.015-0C
Engine	28.17-R00
Boot	15.00-R00
Panel	7.02
Font	8.10H02-U4.0
Tray 2	08.29-R00
Tray 3	03.04
Duplex	08.29-R00
Bin 1	01.02
Bin 2	
Bin 3	
Bin 4	
Bin 5	
Bin 6	01.153

Manufacture Date 0

Cartridge Information

Cyan Toner (0% — 100%)
Serial Number = 033240062F
Capacity = 6 K
Type = Return

Yellow Toner (0% — 100%)
Serial Number = 032860652A
Capacity = 15 K
Type = Return

Magenta Toner (0% — 100%)
Serial Number = 033261397A
Capacity = 15 K
Type = Return

Black Toner (0% — 100%)
Serial Number = 033120310A
Capacity = 6 K
Type = Return

ITU Information

ITU Serial Num	0020408015G200020890
ITU Page Count	1272
ITU Cycle Count	17232

MARGIN SETTINGS

Top Margin	= 3
Bottom Margin	= -10
Left Margin	= -3
Right Margin	= -1
Cyan Top Margin	= 11
Cyan Left Margin	= 10
Cyan Right Margin	= 66
Cyan Theta Margin	= 4
Cyan Fine Top Margin	= 0
Yellow Top Margin	= 15
Yellow Left Margin	= 6
Yellow Right Margin	= 37
Yellow Theta Margin	= 2
Yellow Fine Top Margin	= 0
Magenta Top Margin	= 5
Magenta Left Margin	= 2
Magenta Right Margin	= 61
Magenta Theta Margin	= 4
Magenta Fine Top Margin	= 0
Dup Top Margin	= 0

EP SETTINGS

Fuser Temp	= Normal

DC Charge Adjust

Black	= Normal
CMY	= Normal

Dev Bias Adj

Black	= Normal
Magenta	= Normal
Cyan	= Normal
Yellow	= Normal

Transfer Adjust

Black	= Normal
Magenta	= Normal
Cyan	= Normal
Yellow	= Normal

COLOR MENU

Print Mode	= Color
Color Correction	= Auto
Print Resolution	= 4800CQ
Toner Darkness	= 4

ERROR LOG

1-200	2-202
3-200	4-000
5-000	6-000
7-000	8-000
9-000	10-000
11-000	12-000

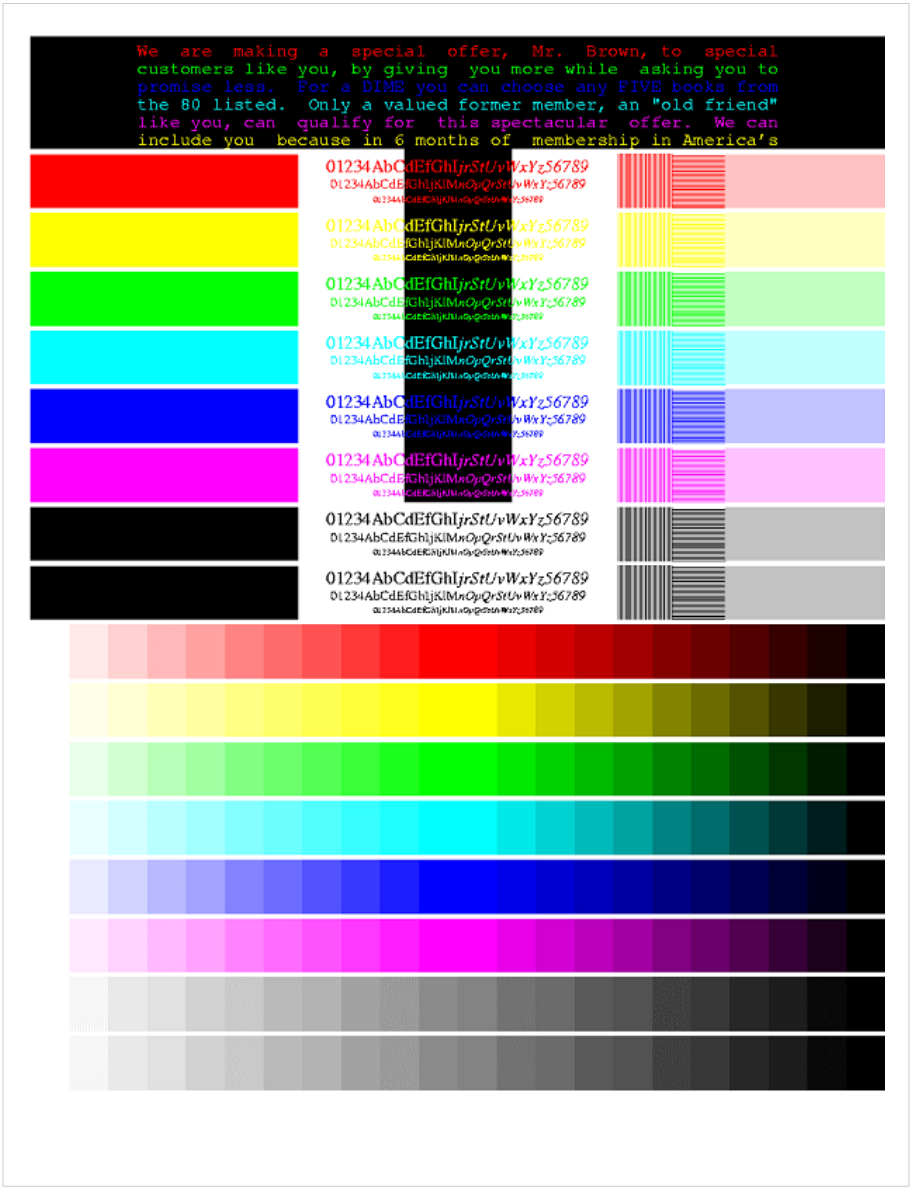
Paper Source	= Tray 1
Formatted Size	= Letter

aaaaaa

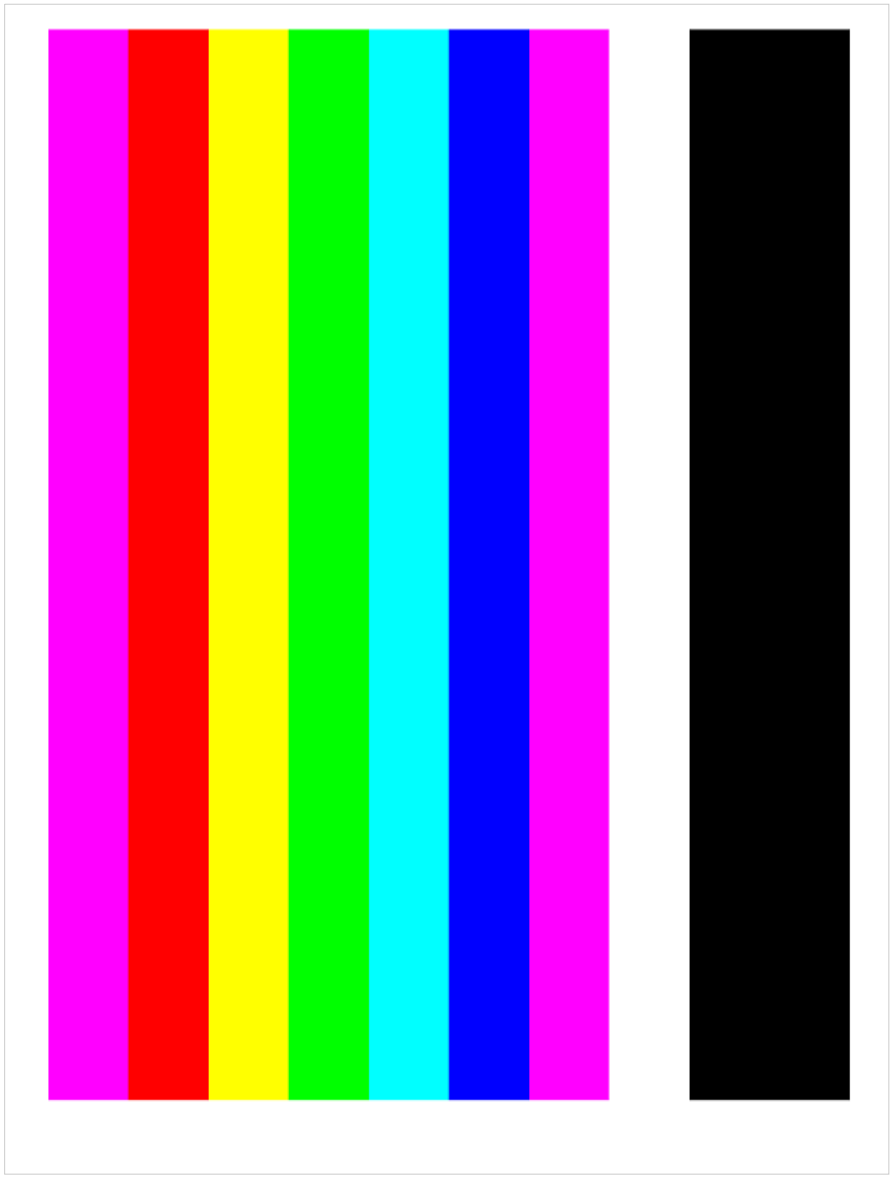
ABCDEFGHIJKLMNOPQRSTU
ABCDEFGHIJKLMNOPQRSTU

12 - 0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~⌂Çüé
10 - 0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~⌂Çüéâäàåçêëèïî
8 - 0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~⌂Çüéâäàåçêëèïî
6 - 0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~⌂Çüéâäàåçêëèïî

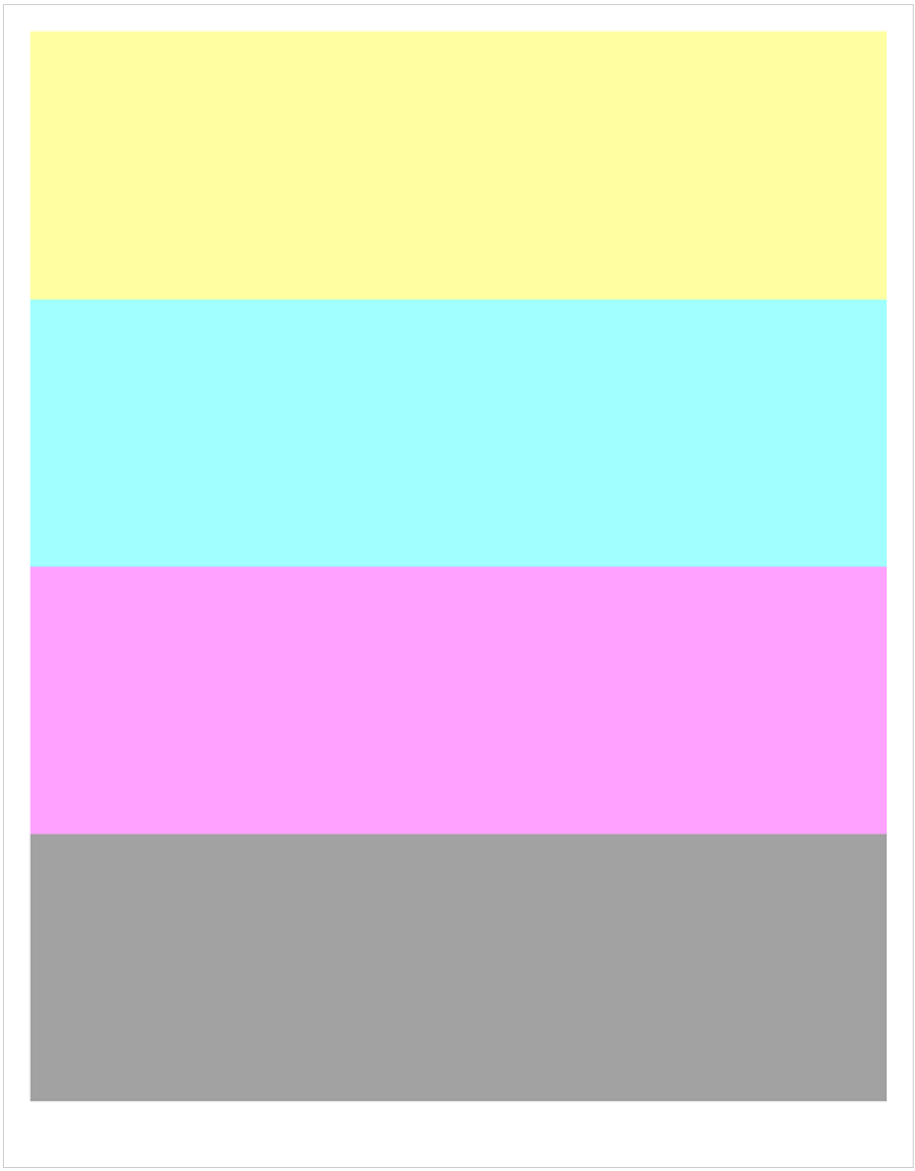
Print Quality Pages—Page 1 (total of five)


We are making a special offer, Mr. Brown, to special
customers like you, by giving you more while asking you to
promise less. For a DIME you can choose any FIVE books from
the 80 listed. Only a valued former member, an "old friend"
like you, can qualify for this spectacular offer. We can
include you because in 6 months of membership in America's
01234 AbCdEfGhIjrStUvWxYz56789

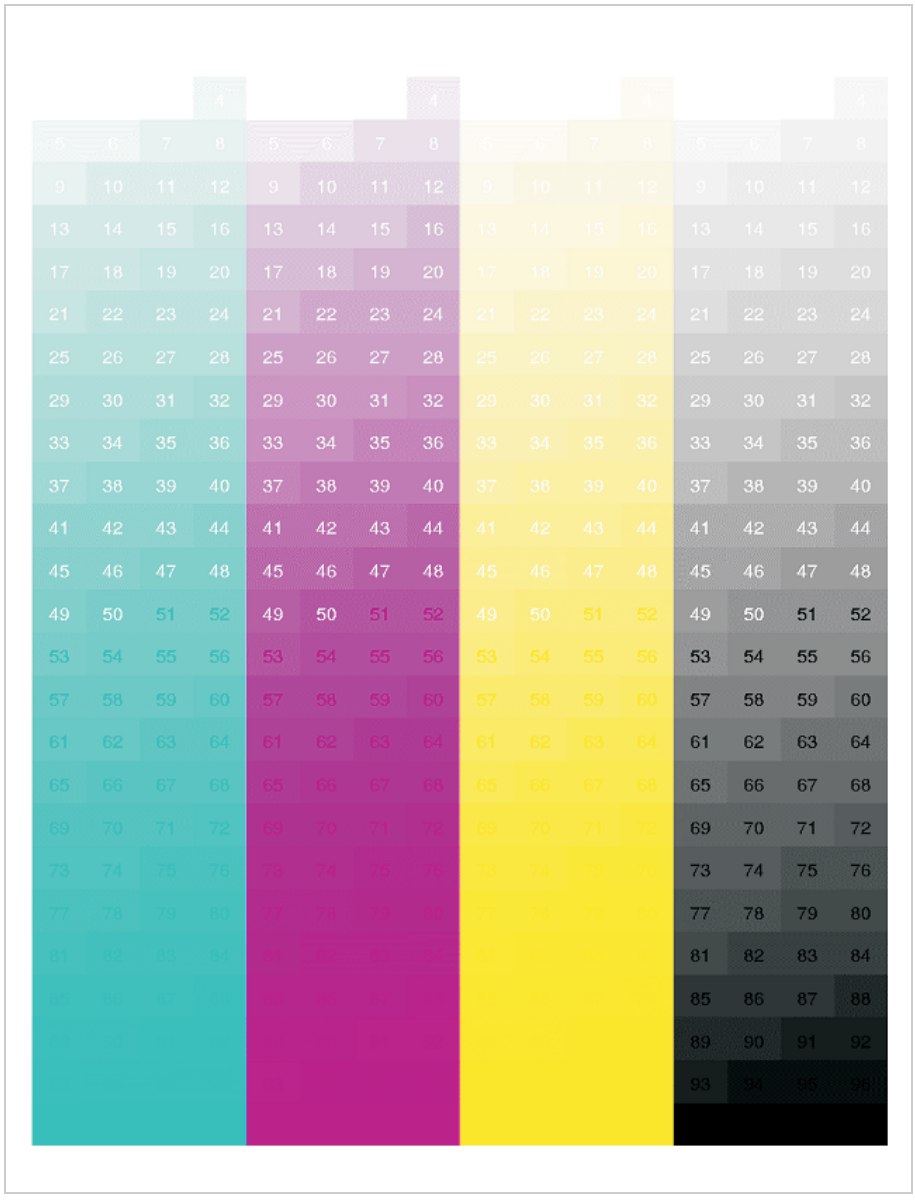
Print Quality Pages—Page 2 (total of five)



Print Quality Pages—Page 3 (total of five)

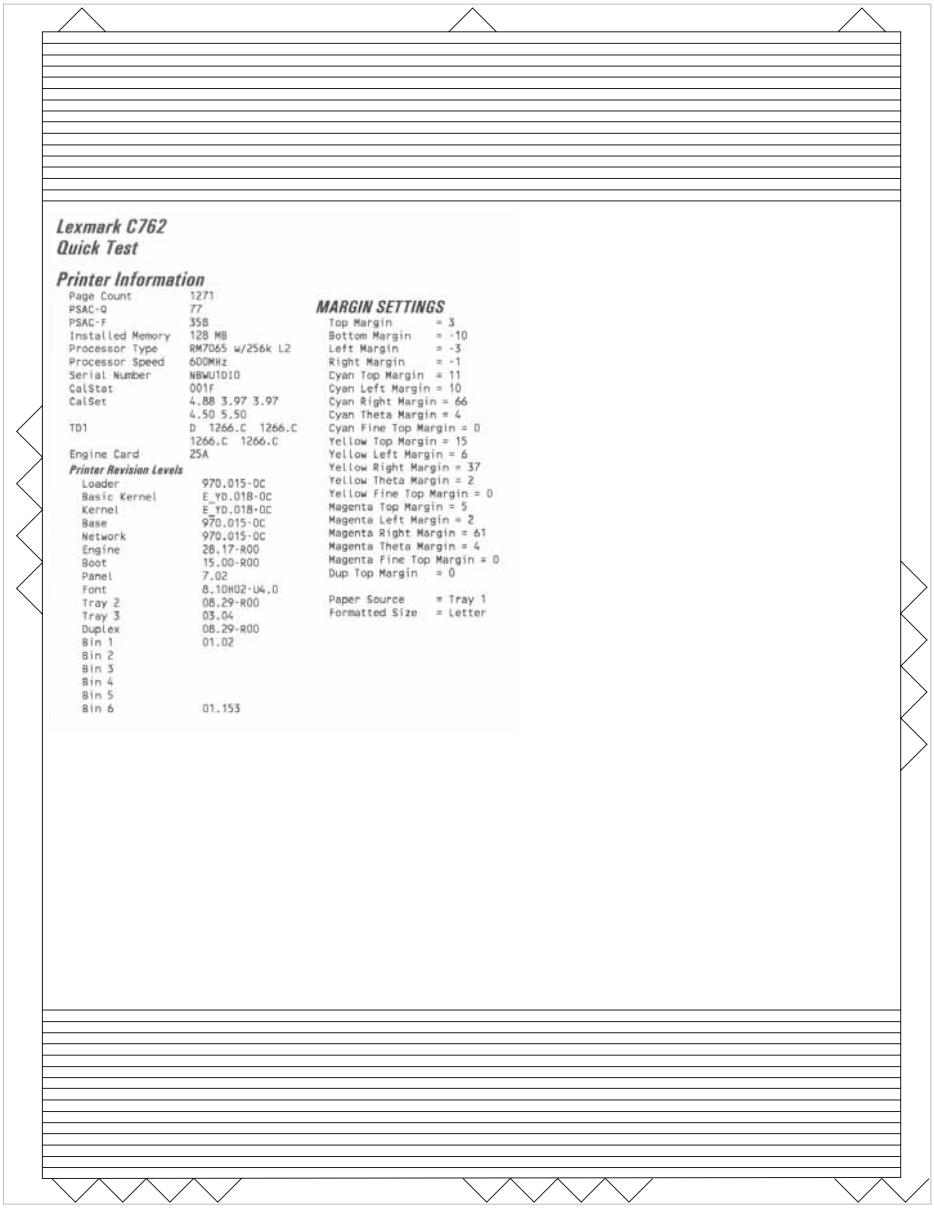


Print Quality Pages—Page 4 (total of five)



Registration and alignment

Quick Test Page



Lexmark C762
Quick Test

Printer Information

Page Count	1271
PSAC-Q	77
PSAC-F	358
Installed Memory	128 MB
Processor Type	RM7065 w/256k L2
Processor Speed	600MHz
Serial Number	NBWU1D10
CalStat	001f
CalSet	4.88 3.97 3.97 4.50 5.50
TD1	D 1266.C 1266.C 1266.C 1266.C
Engine Card	25A

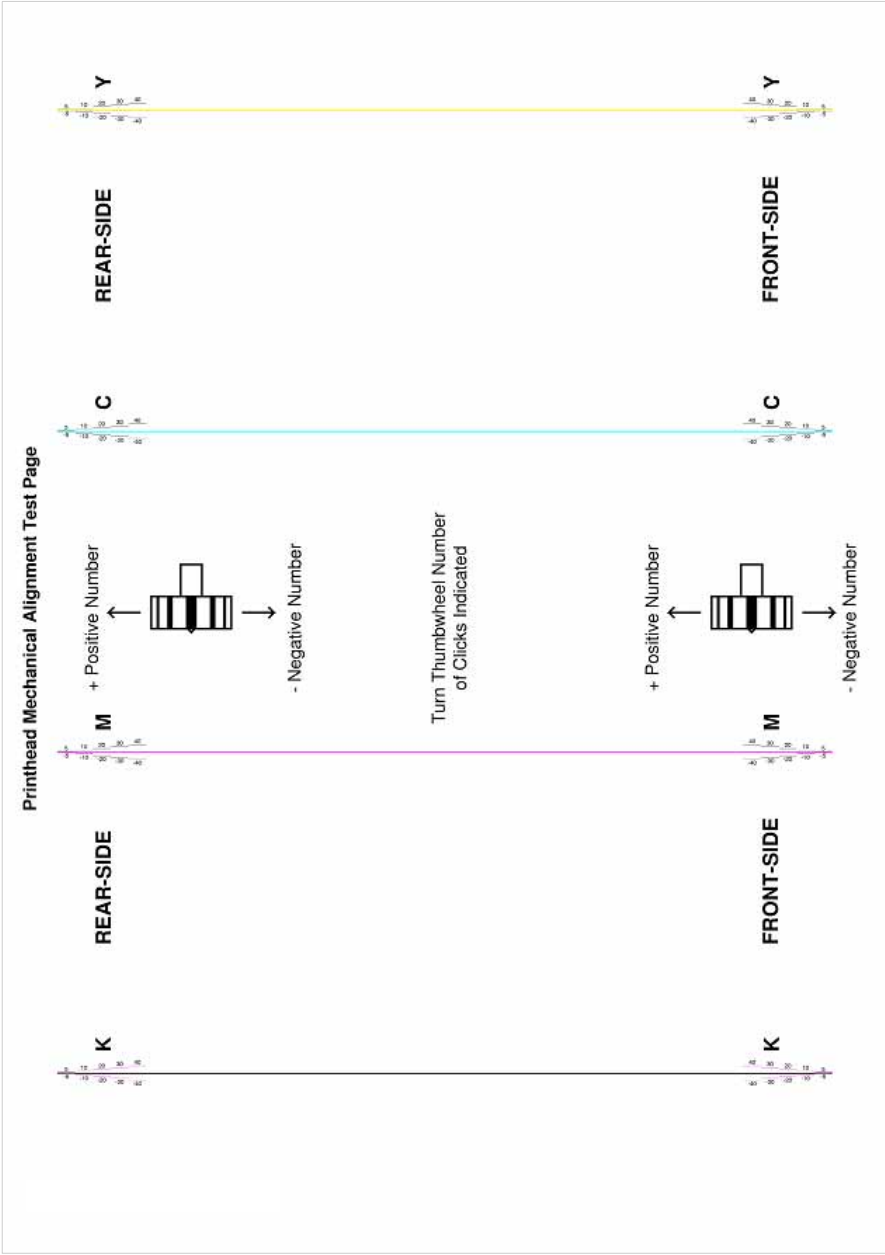
Printer Revision Levels

Loader	970.015-0C
Basic Kernel	E_YD.018-0C
Kernel	E_YD.018-0C
Base	970.015-0C
Network	970.015-0C
Engine	28.17-R00
Boot	15.00-R00
Panel	7.02
Font	8.10H02-U4.0
Tray 2	08.29-R00
Tray 3	03.04
Duplex	08.29-R00
Bin 1	01.02
Bin 2	
Bin 3	
Bin 4	
Bin 5	
Bin 6	01.153

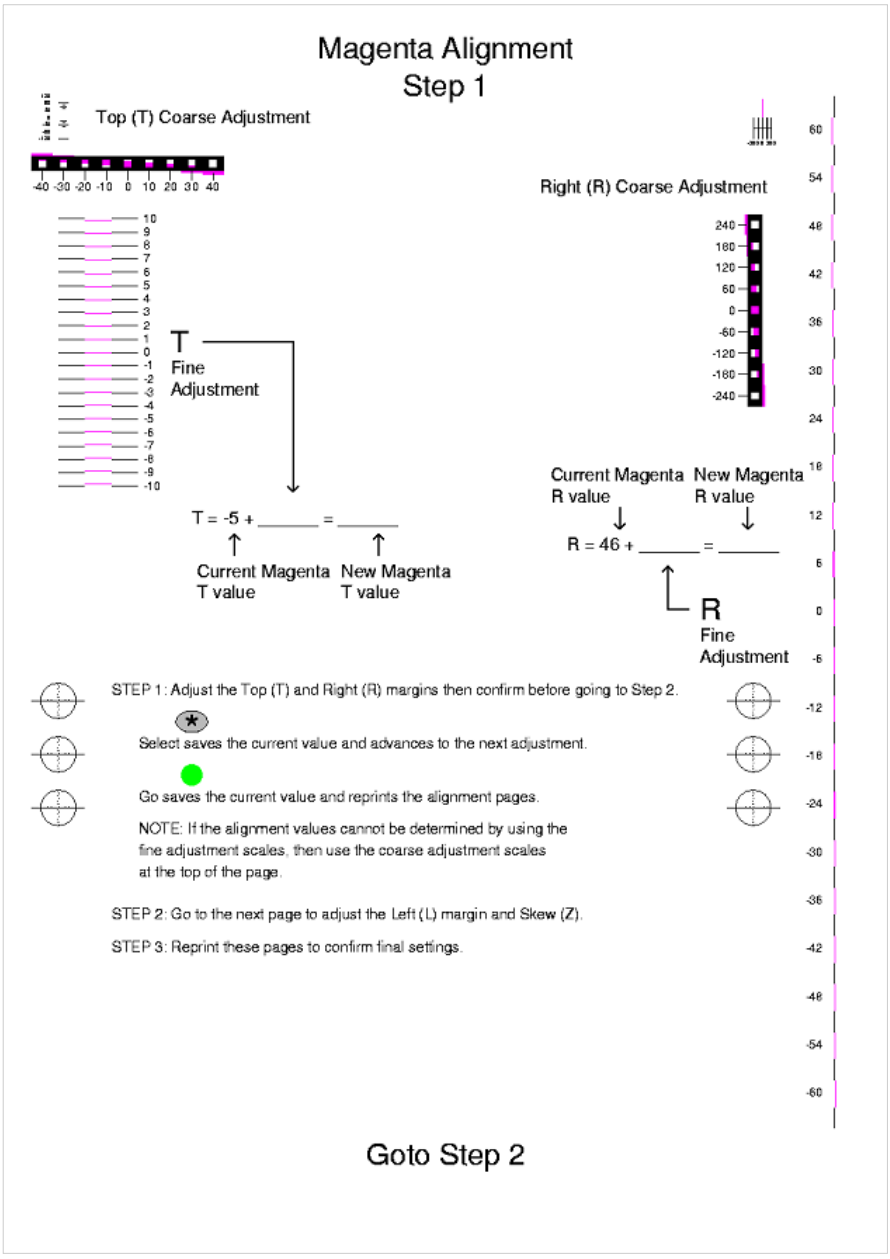
MARGIN SETTINGS

Top Margin	= 3
Bottom Margin	= -10
Left Margin	= -3
Right Margin	= -1
Cyan Top Margin	= 11
Cyan Left Margin	= 10
Cyan Right Margin	= 66
Cyan Theta Margin	= 4
Cyan Fine Top Margin	= 0
Yellow Top Margin	= 15
Yellow Left Margin	= 6
Yellow Right Margin	= 37
Yellow Theta Margin	= 2
Yellow Fine Top Margin	= 0
Magenta Top Margin	= 5
Magenta Left Margin	= 2
Magenta Right Margin	= 61
Magenta Theta Margin	= 4
Magenta Fine Top Margin	= 0
Dup Top Margin	= 0
Paper Source	= Tray 1
Formatted Size	= Letter

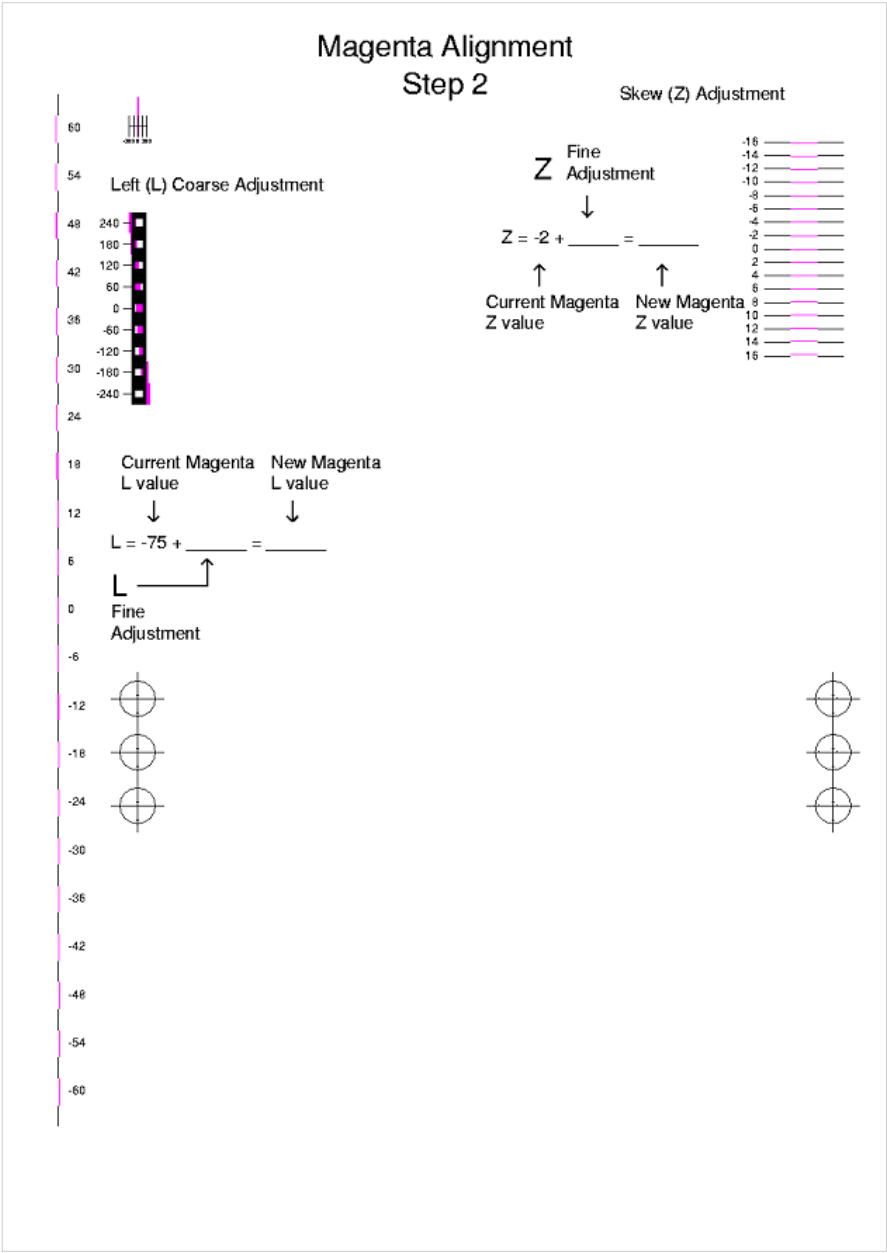
Printhead mechanical alignment test page



Printhead electronic alignment test page—Magenta (one of two)


Magenta Alignment
Step 1
Top (T) Coarse Adjustment
-40 -30 -20 -10 0 10 20 30 40
Right (R) Coarse Adjustment
240
180
120
60
0
-60
-120
-180
-240
T
Fine
Adjustment
T = -5 + _____ = _____
Current Magenta T value
New Magenta T value
Current Magenta R value
New Magenta R value
R = 46 + _____ = _____
R
Fine
Adjustment
STEP 1: Adjust the Top (T) and Right (R) margins then confirm before going to Step 2.
Select saves the current value and advances to the next adjustment.
Go saves the current value and reprints the alignment pages.
NOTE: If the alignment values cannot be determined by using the fine adjustment scales, then use the coarse adjustment scales at the top of the page.
STEP 2: Go to the next page to adjust the Left (L) margin and Skew (Z).
STEP 3: Reprint these pages to confirm final settings.
Goto Step 2

Printhead electronic alignment test page—Magenta (two of two)



Index

Numerics

1565 Emul Error Load **2-40**
1xx service errors
  error code table **2-8**–**2-13**
  error-specific service checks **2-41**–**2-65**
2000-sheet input tray option
  diagnostics **2-4**
  parts catalog **7-58**, **7-60**
2xx paper jams
  description **2-15**–**2-17**
  error-specific service check **2-66**–**2-82**
30-99 user attendance messages **2-31**–**2-40**
500-sheet drawer option
  diagnostics **2-4**
  parts catalog **7-50**, **7-52**
  service check **2-102**
500-sheet integrated tray
  parts catalog **7-20**
5-bin mailbox option
  diagnostics **2-5**
  parts catalog **7-46**, **7-48**
  service checks **2-98**
80 Fuser Maintenance **6-4**
900 RIP Software Error
  service checks **2-83**
9xx service errors
  error code table **2-6**–**2-8**
  error-specific service check **2-83**–**2-97**

A

AC power, service check **2-105**
acoustics **1-5**
acronyms **1-18**
ALIGNMENT MENU **3-15**
alignments
  printhead electronic alignment **4-63**
  printhead mechanical alignment **3-15**, **4-61**
attendance messages **2-27**
Auto Color Adjust **3-11**
autocompensator pick assembly
  parts catalog **7-21**
  removal **4-20**
  service checks **2-107**
autoconnect, bottom, connections **5-19**
autoconnect, top, connections **5-18**

B

banner tray **7-73**
BASE SENSOR TEST **3-30**
Belt Tracking **3-18**
black only retract (BOR), service checks **2-109**
BOR drive assembly
  parts catalog **7-27**
  removal **4-28**
BOR drive motor, location **5-2**
Button Test **3-20**

C

cabling
  system board **7-36**
  system board in color **A-5**
  transfer HVPS **7-38**
CACHE Test **3-21**
Cal Ref Adj **3-34**
cartridge contact assembly
  location **5-4**, **5-5**
  parts catalog **7-28**
  removal **4-29**
cartridge drive assembly
  location **5-2**
  lubrication **6-3**
  parts catalog **7-29**
  removal **4-30**
  service checks **2-57**, **2-58**, **2-59**, **2-61**, **2-62**, **2-63**, **2-64**, **2-65**
cartridge drive motor, location **5-2**
close door, service checks **2-110**
color correction settings **1-3**
Color Menu **2-23**
Color Page Count **3-32**
Color Trapping **3-9**
Configuration ID **3-33**
configuration menu **3-8**
  Auto Color Adjust **3-11**
  Color Trapping **3-9**
  Demo Mode **3-10**
  Energy Conserve **3-11**
  entering **3-8**
  Env Prompts **3-12**
  ERROR LOG **3-11**
  Exit Config Menu **3-8**, **3-12**
  Factory Defaults **3-10**
  Font Sharpening **3-11**
  Fuser Count Value **3-9**
  ITU Count Value **3-9**
  Panel Menu **3-10**
  Paper Prompts **3-12**
  PPDS Emulation **3-10**
  Print Quality Pages **3-9**
  Reset Fuser Count **3-9**
  SIZE SENSING **3-10**
  Tray Insert Msg **3-9**
connector locations
  developer HVPS board **5-22**
  fuser connectors **5-24**
  HCIT 2000-sheet board **5-26**
  HCOF LVPS board **5-32**
  HCOF system board **5-28**
  HVPS **5-20**

HVPS board 5-20
LVPS 5-23
paper size sensing board 5-25
system board 5-8, A-5

D

DC Charge Adjustment 3-34
DC power, service checks 2-105
Defaults 3-32
defect locator chart and transparency 3-4
Demo Mode 3-10
Dev Bias Adj 3-34
developer HVPS board
connectors 5-22
location 5-1
parts catalog 7-34
removal 4-31
service checks 2-110
diagnostic aids
partial print test 3-6
print quality deft locator transparency 3-4
printhead diagnostics 3-1
diagnostics
2*xx* paper jam message table 2-27
error code table 2-6
HCOF error code table 2-116
sub error code table 2-18
system board LED error code table 2-121
user attendance message table 2-27
Diagnostics Mode 3-13
ALIGNMENT MENU 3-15
BASE SENSOR TEST 3-30
DEVICE TESTS 3-30
Disk Test/Clean 3-31
Flash Test 3-31
Quick Disk Test 3-30
Drift Sensors 3-16
DUPLEX TESTS 3-24
Duplex Quick Tests 3-24
Duplex Sensor Test 3-24
Duplex Top Margin Offset 3-24
entering 3-13
EP SETUP 3-34
DC Charge Adjustment 3-34
Dev Bias Adj 3-34
EP Defaults 3-34
Fuser Temp 3-34
Transfer Adjust 3-34
ERROR LOG 3-35
Clear Log 3-36
Display Log 3-35
Print Log 3-35
EXIT DIAGNOSTICS 3-13, 3-36
FINISHER TESTS 3-28
Finisher Feed Test 3-28
Finisher Sensor Test 3-28
Hole Punch Test 3-29
Staple Test 3-28
HARDWARE TESTS 3-20
Button Test 3-20
CACHE Test 3-21
DRAM Test 3-21
LCD Test 3-20
Parallel Wrap Test 3-22
ROM Test 3-22
Serial Wrap Test 3-23
INPUT TRAY TESTS 3-25
Feed Test 3-25
Sensor Test 3-25
MISC TESTS 3-17
Belt Tracking 3-18
Motor Detect 3-17
Printhead Inst 3-18
Toggle ITU 3-17
OUTPUT BIN TESTS 3-26
Diverter Test 3-27
Feed Test 3-26
Feed to All Bins 3-26
Sensor Test 3-27
PRINT TESTS
Print Quality Pgs 3-19
Quick Test Pages, by input source 3-19
PRINTER SETUP 3-32
Cal Ref Adj 3-34
Configuration ID 3-33
Defaults 3-32
Edge to Edge 3-33
Engine Setting *x* 3-33
Model Name 3-33
PAGE COUNTS 3-32
Reset Calibration 3-34
Serial Number 3-33
REGISTRATION 3-14
TOP FINE MARGIN ADJ 3-16
dip switch settings, HCIT 3-36
Diverter Test 3-27
DRAM Test 3-21
Drift Sensors 3-16
duplex option
deflector button replacement A-14
parts catalog 7-54, 7-56
service checks 2-112
Duplex Quick Test 3-24
Duplex Sensor Test 3-24
Duplex Top Margin Offset 3-24

E

Edge to Edge 3-33
electronics 7-30, 7-32, 7-34, 7-35
electronics, cabling interconnections 7-36, 7-38, 7-40, 7-41
Energy Conserve 3-11
Engine Setting *x* 3-33
Env Prompts 3-12
envelope feeder option
parts catalog 7-70
service checks 2-114

error codes
1565 service error 2-40
1xx service errors 2-8
2xx paper jams 2-15
3x-8x attendance errors 2-31
9xx service errors 2-6
sub error code tables, 9xx and 2xx 2-18
user attendance errors 2-27
ERROR LOG
Clear Log 3-36
configuration menu 3-11
diagnostics mode 3-35
Display Log 3-35
Print Log 3-11, 3-35
ESD-sensitive parts 4-1
exiting configuration menu 3-12

F

Factory Defaults 3-10
Feed Test 3-25, 3-26
Feed to All Bins 3-26
finisher
alignment tip A-7
cables 7-68
connections 5-28
LVPS board 5-32
parts catalog 7-62, 7-64, 7-66
service checks 2-116
sub LVPS relay board 5-32
Finisher Feed Test 3-28
Finisher Sensor Test 3-28
finisher system board, connections 5-28
Flash Test 3-31
Font Sharpening 3-11
friction buckler, parts catalog 7-19
front right light shield 4-34
fuser assembly
parts catalog 7-7
removal 4-35
fuser bottom duct
parts catalog 7-5
removal 4-36
Fuser Count Value 3-9
fuser drive assembly
lubrication 6-2
parts catalog 7-10
removal 4-37
service checks 2-124
fuser drive card assembly
parts catalog 7-10
removal 4-37
fuser fan
location 5-2
parts catalog 7-37
removal 4-38
service checks 2-85
fuser motor assembly, location 5-1
Fuser Temp 3-34
fuser web oiler motor assembly
installation 4-42
removal 4-40

H

HCIT standalone test mode 3-36
high-capacity input tray (HCIT)
connections 5-26
paper jam 2-75
parts catalog 7-58, 7-60
service checks 2-121
standalone test mode 3-36
Hole Punch Test 3-29
HVPS, see developer HVPS or transfer HVPS

I

input media types and weights 1-14
ITU assembly
Auto Color Adjust 3-11
parts catalog 7-22
removal 4-44
service check 2-41, 2-44
ITU Count Value 3-9
ITU drive assembly
lubrication 6-3
parts catalog 7-23
removal 4-44
ITU drive motor
location 5-2
removal 4-45

L

LCD Test 3-20
low voltage power supply (LVPS)
connections 5-23, 5-24
location 5-1
parts catalog 7-31
removal 4-46
service check 2-86
lubrication
cartridge drive assembly replacement 6-3
fuser drive assembly replacement 6-2
ITU drive assembly replacement 6-3
lubrication specifications 6-1

M

maintenance kits 6-4
maintenance, scheduled 6-4
media
input types and weights 1-14
output media types and weights 1-15
sizes 1-12
types 1-10
memory
available memory options 1-9
configuration 1-8
menus 2-22
messages, attendance 2-27
Model Name 3-33
models 1-1, 7-1

Mono Page Count 3-32
Motor Detect 3-17
multipurpose feeder (MPF)
  parts catalog 7-18, 7-19
  removal 4-48

N

narrow media sensor (NMS) cable, removal 4-70
narrow media sensor (NMS), removal 4-71
nip relief handle
  parts catalog 7-17
  removal 4-50
nip shock 3-4

O

operator panel
  parts catalog 7-3
  service checks 2-125
  understanding 2-21
options and features
  description 1-2
  parts catalog 7-74
outdoor media tray 7-72
output expander
  parts catalog 7-42, 7-44
  service checks 2-127
output media types and weights 1-15

P

page counts
  setting page counts 3-32
  viewing permanent 3-33
Panel Menus 3-10
Paper Prompts 3-12
paper size sensing assembly
  connections 5-25
  location 5-1
  parts catalog 7-16
  removal 4-55
  replacement 4-56
  service check 2-143
paper size sensing board
  removal 4-58
paper, see media
Parallel Wrap Test 3-22
partial print test 3-6
parts catalog
  500-sheet drawer option 7-50, 7-52
  500-sheet integrated tray 7-20
  5-bin mailbox 7-46, 7-48
  autocompensator assembly 7-21
  banner tray 7-73
  BOR drive assembly 7-27
  cartridge contact assembly 7-28
  cartridge drive assembly 7-29
  cartridge mounting 7-6
  covers 7-2, 7-4
  duplex option 7-54, 7-56
  electronics 7-30, 7-32, 7-34, 7-35
  electronics—cabling interconnections 1 7-36
  electronics—cabling interconnections 2 7-38
  electronics—cabling interconnections 3 7-40
  electronics—cabling interconnections 4 7-41
  envelope option 7-70
  finisher 7-62, 7-64, 7-66
  finisher cables 7-68
  fuser assembly 7-7
  fuser drive 7-10
  high-capacity input tray (HCIT) 7-58, 7-60
  ITU assembly 7-22
  ITU drive assembly 7-23
  ITU loading 7-24
  miscellaneous 7-76
  multipurpose feeder (MPF) 7-18, 7-19
  options 7-74
  outdoor media tray 7-72
  output expander 7-42, 7-44
  paper feed input 7-15
  paper feed output (redrive) 7-14
  paper feed transport 7-17
  paper size sensing 7-16
  printheads 7-13
  transfer 7-12
  vacuum transport belt assembly (VTB) 7-11
  waste toner container 7-26
Perm Page Count 3-32
pick rolls, removal 4-58
POR sequence 2-2
power cords 7-31
power-on sequence (POR) 2-2
PPDS Emulation 3-10
print quality 3-5
  black and white only 2-133
  blank page 2-130
  entire page is one color 2-131
  horizontal lines or streaks 2-134
  light lines or streaks 2-139
  light print 2-133
  light print - all colors 2-133
  low image density 2-135
  missing colors 2-132
  negative ghost image 2-137
  one color has light print 2-134
  paper wrapped around the second transfer roll 2-140
  poor color alignment 2-136
  print quality service checks 2-130
  print quality test pages 3-19
  residual image 2-137
  service check 2-130
  smudged or distorted images 2-138
  toner is on the back of the printed page 2-139
  toner smears or rubs off the page 2-138
  transparency print quality is poor 2-136
  uneven printing 2-137
  vertical lines or streaks 2-134
  white streak in color plane 2-140
print quality defect locator chart 3-4
print quality samples B-1

PRINT TESTS
Print Quality Pgs **3-19**, **B-3**
Quick Test Page **3-19**
printer alignment procedures **4-61**, **4-63**
printhead diagnostics **3-1**
printhead electronic alignment **4-63**
printhead electronic alignment test pages **B-10**
Printhead Inst **3-18**
printhead interlock switch, service check **2-110**
printheads
diagnostics aid **3-1**
electronic alignment **4-63**
identification **4-60**
location **5-2**
parts catalog **7-13**
removal **4-61**
Prt Quality Pgs **3-9**

Q

Quick Disk Test **3-30**
Quick Test Page **3-15**, **3-19**, **B-8**
Quick Test, duplex **3-24**

R

rear bellcrank
parts catalog **7-25**
removal **4-64**, **4-66**
redrive assembly
belt routing **A-6**
parts catalog **7-14**
removal **4-68**
REGISTRATION **3-14**
registration motor
location **5-2**
parts catalog **7-17**
removal **4-69**
removals
autocompensator pick assembly **4-20**
BOR drive assembly **4-28**
cartridge contact assembly **4-29**
cartridge drive assembly **4-30**
covers
front cover assembly **4-14**
front left handle cover assembly **4-10**, **4-11**
front lower left cover **4-10**
front lower right cover **4-12**
front right handle cover assembly **4-13**
left lower cover **4-18**
lower jam access door assembly **4-19**
lower right door assembly **4-18**
paper path access door cover **4-11**
rear cover **4-16**
redrive door **4-19**
top cover assembly **4-6**
developer HVPS board **4-31**
friction buckler **4-33**
front right light shield **4-34**
fuser assembly **4-35**
fuser bottom duct **4-36**
fuser drive assembly **4-37**
fuser drive card assembly **4-37**
fuser fan **4-38**
fuser top duct **4-39**
fuser web oiler motor assembly and card **4-40**
inner system board shield **4-43**
ITU assembly **4-44**
ITU drive assembly **4-44**
ITU drive motor **4-45**, **4-69**
LVPS assembly **4-46**
multipurpose feeder (MPF) **4-48**
nip relief handle **4-50**
operator panel **4-53**
outer system board shield **4-54**
paper size sensing assembly **4-55**
paper size sensing board **4-58**
pick rolls **4-58**
printheads **4-60**
rear bellcrank (black) **4-66**
rear bellcrank (cyan, magenta, yellow) **4-64**
redrive assembly **4-68**
registration motor **4-69**
RIP fan **4-69**
S2/narrow media/transparency/mutipurpose feeder cables **4-70**
S2/narrow media/transparency/mutipurpose feeder sensors **4-71**
second transfer roll **4-71**
system board **4-72**
transfer HVPS board **4-73**
transfer plate assembly **4-76**
vacuum transport belt (VTB) **4-77**
vacuum transport belt (VTB) fan **4-79**
waste container door **4-79**
waste container latch **4-80**
web oiler fuser kit installation **4-80**
Reset Calibration **3-34**
Reset Fuser Count **3-9**
resolution **1-3**
RIP fan
location **5-2**
removal **4-69**
service check **2-86**
ROM Test **3-22**

S

S2 sensor cable, removal **4-70**
S2 sensor, removal **4-71**
safety information **xv**
safety inspection guide **6-1**
screw identification table **4-2**
second transfer roll
parts catalog **7-12**
removal **4-71**
service check **2-141**
Sensor Test **3-25**, **3-27**
sensors
location **5-3**
paper out, MPF **7-15**
paper size **7-16**

S2/narrow media (NMS) 4-70, 4-71, 7-15
transparency 7-15
Serial Number 3-33
Serial Wrap Test 3-23
service checks 2-41
100 ITU error 2-63
100-990 error-specific service checks 2-41–2-97
500-sheet drawer option 2-102
5-bin mailbox option 2-98
900 error code 2-83
AC and DC power 2-105
autocompensator 2-107
black only retract (BOR) 2-109
cartridge drive assembly 2-64
close door/HVPS/printhead interlock switch 2-110
duplex option 2-112
envelope feeder option 2-114
fans 2-85
finisher 2-116
fuser drive assembly noise check 2-124
HCIT 2-121
HCIT 2000-sheet option 2-121
ITU drive motor 2-63
operator panel LCD/status LED/buttons 2-125
output expander option 2-127
print quality 2-130
second transfer roll 2-141
toner metering cycle (TMC) 2-87
tray 1 2-142
tray 1 paper size sensing 2-143
service tips
duplex option deflector button replacement A-14
finisher alignment A-7
identifying system board cabling A-5
identifying the printheads A-4
printhead diagnostics A-1
redrive belt routing A-6
setting printer alignment 3-15
SIZE SENSING 3-10
specifications
acoustics 1-5
dimensions 1-4
electrical 1-5
environment 1-6
media 1-10
memory configuration 1-8
memory options 1-9
operating clearance 1-5
performance 1-2
power and electrical 1-5
speed and performance 1-6
time to first print 1-8
Stapler Test 3-28
symptoms
500-sheet drawer option 2-4
5-bin mailbox option 2-5
base printer 2-3
close door displays constantly 2-3
colored lines, streaks or smudges 2-3
excessive fuser drive motor assembly noise 2-3
fuser fan fails to run or is noisy 2-3
machine inoperative 2-3
one or more op panel buttons do not work 2-3
operator panel - one pel or random pels are missing 2-3
operator panel displays all diamonds continuously 2-3
operator panel is blank 2-3
paper feed problem 2-3
paper feed problems, integrated tray 2-3
print quality - black line 2-3
print quality - blank page (no image) 2-3
print quality - evenly spaced horizontal marks or lines on the printed page 2-3
print quality - light lines or streaks appear on the printed page 2-3
print quality - light print 2-3
print quality - missing colors 2-3
print quality - multiple horizontal lines 2-4
print quality - poor color registration 2-4
print quality - toner on the back of the page 2-4
print quality - toner smears or rubs off the page 2-4
print quality - uneven printing 2-3
printer prints black only 2-3
RIP fan fails to run or is noisy 2-3
single color printed 2-3
VTB fan fails to run or is noisy 2-3
finisher option 2-5
HCIT 2000-sheet option 2-4
magenta, cyan, or yellow lines 2-3
output expander option 2-4
system board
cabling reference A-5
connections 5-6, 5-7, 5-8
location 5-1
parts catalog 7-36
removal 4-72

T

Toggle ITU 3-17
toner darkness 1-3
tools required 1-1
Transfer Adjust 3-34
transfer HVPS board
connectors 5-20
location 5-1
parts catalog 7-34
removal 4-73
service checks 2-110
transfer plate assembly
parts catalog 7-12
removal 4-76
transparency sensor cable, removal 4-70
transparency sensor, removal 4-71
Tray Insert Msg 3-9

U

Utilities Menu 2-25

V

vacuum transport belt (VTB)
- parts catalog **7-11**
- removal **4-77**

vacuum transport belt (VTB) fan **5-2**
- removal **4-79**
- service check **2-85**

W

waste container door, removal **4-79**
waste container latch **7-26**
waste toner container, parts catalog **7-26**
web oiler fuser
- location **5-1**
- removal **4-80**
- replacement web oiler fusers **6-4**
- replacements **6-4**
- upgrade kit **1-17**

Part number index

P/N	Description	Page
11A9095	Power cord set (LV)—U.S., Asia Pacific (English), Canada, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Japan, Mexico, Nicaragua, Panama, Puerto Rico, Saudi Arabia, Taiwan, Venezuela, Virgin Islands	7-31
12G6303	Second transfer roll	7-12
12G6309	Screw type 323, parts packet	7-3, 7-5, 7-10, 7-17, 7-23, 7-25, 7-34, 7-49, 7-53, 7-57, 7-76
12G6321	Cable, operator panel	7-37
12G6327	Transfer HVPS	7-34
12G6335	Stand off	7-33
12G6340	Fuser top duct	7-5
12G6346	Buckler housing	7-19
12G6347	Bellcrank, front hold door	7-3
12G6353	Cartridge support roller	7-25
12G6354	Rib housing	7-19
12G6358	Fuser bottom duct	7-5
12G6360	Fuser wall duct	7-5
12G6376	Spring, rear hold down	7-3, 7-28
12G6377	Rear hold down bellcrank	7-28
12G6380	Machine pad	7-3, 7-53
12G6383	Fuser latch slide	7-5
12G6384	Fuser latch slide spring	7-5
12G6385	#58 gear	7-23
12G6386	Duplex actuator arm assembly	7-5
12G6387	Ground cable	7-5
12G6389	Top front support bracket	7-3
12G6397	Front access door support	7-3
12G6399	Front upper pivot cover	7-3
12G6403	Spring, paper path access door	7-3
12G6404	Left front light shield cover	7-3
12G6405	Front right light shield cover	7-3
12G6417	Side restraint	7-20, 7-51
12G6418	Back restraint	7-20, 7-51
12G6419	Back restraint latch	7-20, 7-51
12G6420	Tray wear clip	7-20, 7-51
12G6421	Wear strip	7-20, 7-51
12G6425	Tray bias bellcrank assembly	7-20, 7-51
12G6426	Tray bias spring	7-20, 7-51
12G6442	Terminal, contact spring	7-25
12G6447	Friction buckler	7-19
12G6454	Frame bias spring	7-19
12G6458	MPF support bracket spring	7-19
12G6460	Door hinge restraint	7-19
12G6461	Sensor, paper out/low	7-21
12G6462	MPF bracket assembly	7-19
12G6463	MPF drive gear	7-19
12G6464	MPF drive gear shaft	7-19
12G6465	MPF drive gear bushing	7-19
12G6466	Paper size sensing link	7-16
12G6467	Paper size sensing spring	7-16
12G6468	Paper size sensing bracket	7-16
12G6469	Waste container latch	7-26
12G6470	Waste container latch spring	7-26

12G6471 Tray interlock bellcrank ---- 7-21, 7-53
12G6472 Tray interlock bracket ---- 7-21
12G6476 Paper level sensing assembly ---- 7-21
12G6488 Transfer plate assembly ---- 7-12
12G6489 Vacuum transport belt assembly ---- 7-11
12G6490 VTB fan gap cover ---- 7-35
12G6491 Jam access spring ---- 7-5, 7-11
12G6492 Redrive assembly ---- 7-14
12G6493 Upper door hinge ---- 7-14
12G6494 Waste toner container ---- 7-26
12G6499 Fuser assembly, web oiler 100 V 500W (Japan) ---- 6-4
12G6509 64MB SDRAM card assembly ---- 7-33, 7-75
12G6510 Cable tie (6 in pack) ---- 7-5, 7-53, 7-57
12G6511 Cable tie pad ---- 7-5
12G6524 Fuser assembly, web oiler 115 V 500W ---- 6-4
12G6525 Fuser assembly, web oiler 220 V 500W ---- 6-4
12G6529 Screws, fuser fan mounting ---- 7-35
12G6530 Screw, parts packet ---- 7-3, 7-14, 7-29, 7-34, 7-35, 7-57, 7-76
12G6531 Screws, parts packet ---- 7-10, 7-16, 7-33, 7-76
12G6532 Screws, parts packet ---- 7-3, 7-6, 7-76
12G6533 Screw, parts packet ---- 7-14, 7-19, 7-20, 7-21, 7-25, 7-51, 7-55, 7-76
12G6533 Screws, parts packet ---- 7-13, 7-59, 7-61
12G6534 Screw, parts packet ---- 7-13, 7-76
12G6535 Guide assembly, left side ---- 7-6
12G6536 Guide assembly, right side ---- 7-6
12G6538 Screw, parts packet ---- 7-76
12G6539 Screw type 124, parts packet ---- 7-76
12G6540 Screw, parts packet ---- 7-31, 7-34, 7-76
12G6541 Standoff, high voltage power supply - developer ---- 7-34
12G6543 Web oiler index drive assembly ---- 7-9
12G6545 Web oiler assembly ---- 6-4, 7-9
12G6553 Pass thru sensor ---- 7-53
12G6557 Bellcrank lift spring ---- 7-21, 7-53
12G6558 Pick arm lift bellcrank ---- 7-21, 7-53
12G6559 Electronics/size sensing assembly with system board ---- 7-53
12G6561 Spring ---- 7-53
12G6562 Hinge ---- 7-53
12G6563 Wall support plate ---- 7-53
12G6565 Paper level sensing assembly ---- 7-53
12G6566 Paper size sensing assembly ---- 7-53
12G6568 Reflector label ---- 7-20, 7-51
1339517 Power cord set (HV)—Bolivia, Peru ---- 7-31
1339520 Power cord set (HV)—Paraguay ---- 7-31
1339524 Power cord set (HV)—Chile, Uruguay ---- 7-31
1339528 Power cord set (HV)—Ireland, UK ---- 7-31
1339529 Power cord set—various ---- 7-31
1339530 Power cord set (HV)—Israel ---- 7-31
1339531 Power cord set (HV)—Switzerland ---- 7-31
1339532 Power cord set—Botswana, Lesotho, Namibia, South Africa ---- 7-31
1339534 Power cord set—Denmark ---- 7-31
1339544 Power cord set (HV)—Argentina ---- 7-31
1339550 Power cord set (LV)—Brazil ---- 7-31
1339553 Power cord set (LV)—Japan ---- 7-31
43H5544 Power cord set (HV)—PRC ---- 7-31
56P0159 Coax/Twinax adapter for SCS ---- 7-75
56P0167 Anchor, bracket mounting ---- 7-14
56P0168 Drive assembly, 500 option 2 ---- 7-53
56P0169 Screw, parts packet ---- 7-45

56P0174 Cable assembly, 2nd transfer voltage ---- 7-39
56P0310 Cartridge contact assembly, complete, cyan/magenta/yellow ---- 7-28, 7-40
56P0315 Punch assembly ---- 7-65
56P0316 Staple assembly ---- 7-67
56P0317 Staple cartridge ---- 7-67
56P0318 Box, chad ---- 7-65
56P0319 Accumulator w/o stapler ---- 7-67
56P0320 Cover front door ---- 7-63
56P0321 Top cover (tall finisher) ---- 7-63
56P0322 Tray paper ---- 7-65
56P0323 Output tray offset motor and gear assembly ---- 7-65
56P0324 Motor assembly elevator tray ---- 7-65
56P0325 Motor assembly paper feed ---- 7-65
56P0326 Flag paper full ---- 7-65
56P0327 Paper feed belt (40S3M888) ---- 7-65
56P0328 Inverter transfer belt (40S3M198) ---- 7-65
56P0329 Inverter D drive belt (40S3M225) ---- 7-65
56P0330 Paper feed-input belt (40S3M279) ---- 7-67
56P0331 Exit foam Roller drive belt (40S3M80) ---- 7-65
56P0332 Accumulator paper feed belt (40S3M900) ---- 7-65
56P0333 Tray elevator belt (60S6M1420) ---- 7-65
56P0334 Tray elevator drive belt (170P2M4) ---- 7-65
56P0335 Exit roller drive belt (40S2M264) ---- 7-65
56P0336 Output tray offset drive belt (40S2M134) ---- 7-65
56P0337 Punch belt (40S2M176) ---- 7-65
56P0338 Low voltage power supply ---- 7-65
56P0340 Communications cable ---- 7-65, 7-69
56P0341 Power cord ---- 7-65, 7-69
56P0342 Caster ---- 7-65
56P0343 Punch timing sensor (OJ-541-A5) ---- 7-65
56P0344 Inverter timing sensor (OJ511K-A5) ---- 7-67
56P0345 Punch motor homing sensor (GP1A73A) ---- 7-65
56P0346 Exit timing sensor (EE-SPY415) ---- 7-65, 7-67
56P0347 Jogger fence homing sensor (EE-SX460-P1-CHN) ---- 7-65, 7-67
56P0348 Drop timing sensor (OS-535223-602) ---- 7-67
56P0349 Accumulator homing sensor (OS-311D-A5) ---- 7-67
56P0350 Paper surface sensor (EE-SX460-P1-CHN) ---- 7-65
56P0351 Cover open switch ---- 7-67
56P0352 Printer docking switch SS-5FL-3T(10E) ---- 7-65
56P0354 Bracket finisher alignment ---- 7-65
56P0355 Guide vertical paper ---- 7-67
56P0356 Pack magnet, strong and weak and door latch ---- 7-65
56P0357 Actuation assembly ---- 7-65
56P0358 Accumulator slides ---- 7-67
56P0359 Harness cable assembly H2 ---- 7-69
56P0360 Harness cable assembly H3 ---- 7-69
56P0361 Harness cable assembly H4 ---- 7-69
56P0362 Harness cable assembly H5 ---- 7-69
56P0363 Harness cable assembly H6 ---- 7-69
56P0364 Harness cable assembly S1 ---- 7-69
56P0368 Harness cable assembly S5 ---- 7-69
56P0369 Harness cable assembly E2 ---- 7-69
56P0370 Harness cable assembly E3 ---- 7-69
56P0371 Harness cable assembly E5 ---- 7-69
56P0372 Harness cable assembly E6 ---- 7-69
56P0373 Harness cable assembly E7 ---- 7-69
56P0374 Harness cable assembly E8 ---- 7-69

56P0375 Harness cable assembly E9 ---- 7-69
56P0376 Harness cable assembly E10 ---- 7-69
56P0378 Harness cable assembly R1 ---- 7-69
56P0379 Harness cable assembly D1 ---- 7-69
56P0380 Harness cable assembly D2 ---- 7-69
56P0381 Harness cable assembly D3 ---- 7-69
56P0382 Harness cable assembly D5 ---- 7-67, 7-69
56P0383 Solenoid inverter ---- 7-65
56P0384 Accumulator belt (hook) ---- 7-67
56P0385 Solenoid drop assembly ---- 7-67
56P0386 Fan assembly DC motor ---- 7-65
56P0387 Bar tip unit ---- 7-63
56P0388 Tray limit switch ---- 7-65
56P0406 Bracket, front attach ---- 7-43
56P0407 Shield, output option card ---- 7-43
56P0410 Bracket, rear attach ---- 7-45
56P0418 Bracket, attach front ---- 7-49
56P0421 Spring, static ground ---- 7-49
56P0430 Duplex card assembly ---- 7-57
56P0434 Right side front tray guide ---- 7-55
56P0435 Duplex shaft mount ---- 7-55
56P0437 Duplex output sensor ---- 7-57
56P0441 Duplex shaft assembly ---- 7-55
56P0442 Duplex exit sensor ---- 7-55
56P0444 F/R backup shaft assembly ---- 7-55
56P0445 40T shaft drive F/R gear ---- 7-55
56P0447 Duplex entry shaft assembly ---- 7-55
56P0449 Support decurl guide ---- 7-55
56P0451 Right backup spring assembly ---- 7-57
56P0452 Left backup spring assembly ---- 7-57
56P0454 Wall support ---- 7-55
56P0456 Duplex support plate ---- 7-57
56P0457 Duplex support bracket ---- 7-55
56P0458 Chassis ground spring ---- 7-57
56P0459 Back support ---- 7-57
56P0462 Autoconnect cable assembly ---- 7-57
56P0463 DC forward/reverse motor assembly ---- 7-57
56P0464 DC duplex feed motor ---- 7-57
56P0465 Drive alignment shaft assembly ---- 7-57
56P0466 Spur drive gear ---- 7-55
56P0467 26T duplex gear ---- 7-55
56P0468 Pass thru spring ---- 7-55
56P0470 Aligner arm spring ---- 7-55
56P0471 Bellcrank assembly ---- 7-55
56P0472 Pass thru shaft assembly ---- 7-55
56P0473 Brake pad ---- 7-55
56P0474 Decurl BAC assembly ---- 7-55
56P0475 Brake spring ---- 7-55
56P0476 5 mm bushing ---- 7-55
56P0477 Reduction gear shaft ---- 7-57
56P0478 Aligner spring ---- 7-57
56P0479 Front decurl assembly ---- 7-55
56P0482 Pulley washer ---- 7-55
56P0483 Deflector actuator assembly ---- 7-55
56P0490 Jumper, AC power cord ---- 7-59
56P0491 Caster, movable ---- 7-61
56P0492 Caster, fixed ---- 7-61

56P0493 F adjuster - - - - - - - - - - 7-61
56P0494 System control board - - - - - - - - - - 7-59
56P0495 LVPS - - - - - - - - - - 7-59
56P0497 AC power outlet - - - - - - - - - - 7-59
56P0498 AC power inlet - - - - - - - - - - 7-59
56P0506 Locating pin, options rear left - - - - - - - - - - 7-61
56P0507 Locating pin, options front right - - - - - - - - - - 7-61
56P0509 Cable, feed unit special sensors - - - - - - - - - - 7-61
56P0510 Cable, feed unit sensors - - - - - - - - - - 7-61
56P0511 Paper size sensors cable - - - - - - - - - - 7-59
56P0512 Cable, elevator motor - - - - - - - - - - 7-61
56P0513 Elevator motor assembly - - - - - - - - - - 7-59
56P0514 Options autoconnect cable assembly - - - - - - - - - - 7-61
56P0515 Magnetic latch - - - - - - - - - - 7-61
56P0516 Sensor, photo interrupter - - - - - - - - - - 7-59
56P0517 Options cable mounting plate - - - - - - - - - - 7-61
56P0518 Flag, paper size R - - - - - - - - - - 7-59
56P0519 Flag, paper size F - - - - - - - - - - 7-59
56P0520 Flag, paper size C - - - - - - - - - - 7-59
56P0522 Spring, paper size flag - - - - - - - - - - 7-59
56P0523 Paper tray arms - - - - - - - - - - 7-59
56P0524 Paper tray guide - - - - - - - - - - 7-59
56P0525 Feed unit, complete assembly - - - - - - - - - - 7-59
56P0526 Sensors, special optical - - - - - - - - - - 7-59
56P0527 Bushing - - - - - - - - - - 7-59
56P0528 Feed roller - - - - - - - - - - 7-59
56P0529 Feed cam - - - - - - - - - - 7-59
56P0530 Spring, feed unit - - - - - - - - - - 7-59
56P0531 E-clips, parts packet - - - - - - - - - - 7-59
56P0532 Bushing, 060 - - - - - - - - - - 7-59
56P0533 Spring, feed unit front - - - - - - - - - - 7-59
56P0534 Spring, feed unit rear - - - - - - - - - - 7-59
56P0535 Clip, plastic 5W - - - - - - - - - - 7-59
56P0536 Level sensor flag - - - - - - - - - - 7-59
56P0539 Near empty sensor flag - - - - - - - - - - 7-59
56P0540 Spring, extension - - - - - - - - - - 7-59
56P0541 Tray present lever - - - - - - - - - - 7-61
56P0542 Separation/torque roller - - - - - - - - - - 7-59
56P0543 Cable clamp - - - - - - - - - - 7-61
56P0544 Emitter timing wheel - - - - - - - - - - 7-59
56P0547 Elevator lift belt - - - - - - - - - - 7-59
56P0548 Elevator lift gear - - - - - - - - - - 7-59
56P0549 Elevator lift - - - - - - - - - - 7-59
56P0550 Cable, tray media level sensor - - - - - - - - - - 7-49
56P0560 Rear ITU guide - - - - - - - - - - 7-25
56P0561 Paper size sensor box assembly - - - - - - - - - - 7-59
56P0562 Feed cover - - - - - - - - - - 7-59
56P0563 Ring 7, elevator lift gear/elevator lift - - - - - - - - - - 7-59
56P0564 Kit, stabilizer with mounting screws - - - - - - - - - - 7-61
56P0566 Finisher install kit - - - - - - - - - - 7-63
56P0569 Rear cover (tall finisher) - - - - - - - - - - 7-63
56P0573 Upper right side cover (tall finisher) - - - - - - - - - - 7-63
56P0574 Lower tray cover - - - - - - - - - - 7-63
56P0575 Front/rear lower cover - - - - - - - - - - 7-63
56P0576 Bottom kick cover - - - - - - - - - - 7-63
56P0577 Lower right side cover - - - - - - - - - - 7-63
56P0578 Tray wall cover - - - - - - - - - - 7-65

56P0594 Cam, BOR front ---- 7-25
56P0595 Cam, BOR rear ---- 7-25
56P1198 Thermistor card ---- 7-13
56P1277 Paper tray guide ---- 7-3
56P1280 Harness cable assembly stapler ---- 7-69
56P1285 Rear cover (short finisher) ---- 7-63
56P1286 Upper right side cover (short finisher) ---- 7-63
56P1287 Scanner plate (short finisher) ---- 7-63
56P1290 Cover wire ---- 7-63
56P1417 16MB Flash DIMM card assembly ---- 7-75
56P1418 32MB Flash DIMM card assembly ---- 7-75
56P1427 Lexmark Forms 32MB Flash DIMM ---- 7-75
56P1428 Lexmark Forms 16MB Flash DIMM ---- 7-75
56P1429 Simplified Chinese font DIMM card assembly ---- 7-75
56P1430 Traditional Chinese font DIMM card assembly ---- 7-75
56P1431 MarkNet X2011e Ethernet 10/100BaseTX - 1 Port External Server ---- 7-75
56P1432 MarkNet X2012e Ethernet 10BaseT/2 10BaseTX/10Base 2 - 1 Port External Server ---- 7-75
56P1433 MarkNet X2031e Ethernet 10/100BaseTX - 3 Port External Server ---- 7-75
56P1434 MarkNet X2030t Token Ring External Server ---- 7-75
56P1435 External serial adapter (RS 232) ---- 7-75
56P1436 RS-232 serial/interface card ---- 7-75
56P1437 Adapter, parallel 1284-B ---- 7-75
56P1438 Japanese font card assembly ---- 7-75
56P1471 HCOF control board assembly ---- 7-65
56P1495 Parts packet, ITU loading - yellow ---- 7-25
56P1496 Parts packet, ITU loading - cyan ---- 7-25
56P1497 Parts packet, ITU loading - magenta ---- 7-25
56P1498 Parts packet, ITU loading - black ---- 7-25
56P1500 RIP fan duct ---- 7-5, 7-35
56P1501 Cable, HVPS control - developer ---- 7-37, 7-40
56P1502 Cable, HVPS control - transfer ---- 7-37, 7-39
56P1503 Cable assembly - options bottom/paper size sensing ---- 7-37, 7-41
56P1504 Restraint pad ---- 7-20, 7-51
56P1506 Cable, fuser and Y cartridge motor ---- 7-37
56P1507 Cable, C and M cartridge motor ---- 7-37
56P1508 Cable, ITU and K cartridge motor ---- 7-37
56P1509 Fuser fan assembly with cable ---- 7-35, 7-37
56P1513 ITU light shield assembly (autoconnect) ---- 7-22, 7-37
56P1514 LVPS, 115V/230V ---- 7-31, 7-37
56P1517 System board outer shield ---- 7-33
56P1518 System board shield assembly with clips ---- 7-33
56P1524 Paper out sensor MPF ---- 7-15, 7-19
56P1526 Pick assembly 500-tray ---- 7-21
56P1532 Lower rear door latch ---- 7-14
56P1533 Lower front door latch ---- 7-14
56P1536 Motor assembly, Lift/BOR ---- 7-27, 7-37
56P1538 RIP fan, 92 mm ---- 7-35, 7-37
56P1539 Cable, options - stacker ---- 7-3, 7-37
56P1540 Printhead interlock cable assembly ---- 7-22, 7-37
56P1542 Cable, pick motor extension and paper level sensing ---- 7-21, 7-37
56P1543 INA blank flat shield, use when options are not installed ---- 7-33
56P1545 Cable ground ---- 7-33
56P1547 Cable clip ---- 7-33
56P1548 Cable, laser - black/magenta ---- 7-37
56P1549 Cable, laser - cyan/yellow ---- 7-37
56P1550 Cable, oiler motor driver ---- 7-37
56P1551 VTB fan, 60 mm ---- 7-35, 7-37

56P1555 110 V web oiler upgrade kit ---- 1-17
56P1556 220 V web oiler upgrade kit ---- 1-17
56P1557 100 V web oiler upgrade kit ---- 1-17
56P1558 Web oiler driver board assembly ---- 7-9
56P1561 Cartridge contact assembly, complete black ---- 7-28, 7-40
56P1563 Card assembly - fuser drive ---- 7-10
56P1564 System board shield support with clips ---- 7-16, 7-33
56P1565 Black terminal contact assembly ---- 7-25, 7-39
56P1566 Magenta terminal contact assembly ---- 7-25, 7-39
56P1567 Cyan terminal contact assembly ---- 7-25, 7-39
56P1568 Yellow terminal contact assembly ---- 7-25, 7-39
56P1570 Deflector follower assembly ---- 7-55

56P1572 ITU coupler retract lever ---- 7-22
56P1741 MarkNet Token-Ring Print Internal Server ---- 7-75
56P1742 MarkNet N2101e Ethernet 10/100BaseTX Internal Server ---- 7-75
56P2100 Cable assembly, S2/XPAR/NMS/MPF (with sensors) ---- 7-15
56P2101 Sensor, S2/NMS ---- 7-15
56P2174 Cable, S2/XPAR/NMS/MPF (without sensors) ---- 7-15, 7-37
56P2175 Sensor transparency reflective (XPAR) ---- 7-15
56P2176 Grounding spring ---- 7-53
56P2194 Nip relief handle ---- 7-17
56P2204 Redrive belt 300 T ---- 7-14
56P2216 Shield, door spring ---- 7-3
56P2218 Detent, front access door ---- 7-3
56P2219 Housing, front access door ---- 7-3
56P2220 Parts packet ---- 7-3
56P2223 512MB SDRAM card assembly ---- 7-75
56P2231 Korean font card assembly card assembly ---- 7-75
56P2236 Shield, parallel port ---- 7-33
56P2246 Detent spring ---- 7-3
56P2290 Fuser lift duct ---- 7-5
56P2291 Redrive belt cover duct ---- 7-5
56P2292 Printhead spacer ---- 7-13
56P2293 Registration motor assembly with cable ---- 7-37
56P2294 Accumulator drive belt (B30S2M334) ---- 7-65, 7-67
56P2295 Jogger fence belt (B40S2M460) ---- 7-67
56P2296 Card assembly, printhead diagnostic aid ---- 7-13
56P2297 Card assembly, bar code ---- 7-33
56P2484 Belt, transfer ---- 7-57
56P2489 Label, top paper jam, 421/422 ---- 7-3
56P2505 Label, top paper jam, 401/402 ---- 7-3
56P2800 Blank, TLI/SN label ---- 7-5
56P2801 Printhead assembly ---- 7-13, 7-37
56P2802 Fuser drive assembly ---- 7-10
56P2803 Cartridge drive assembly, cyan/magenta/black ---- 7-29
56P2804 Cartridge drive assembly, yellow ---- 7-29
56P2805 ITU motor drive ---- 7-23
56P2806 ITU drive motor assembly ---- 7-23
56P2807 Front lower left cover ---- 7-3
56P2808 Paper path access door ---- 7-3
56P2809 Left upper pivot cover ---- 7-5
56P2810 Right front cover ---- 7-3
56P2811 Front lower right cover ---- 7-3
56P2812 Cover, left lower ---- 7-5

56P2813 Right rear cover ---- 7-3
56P2814 Left lower pivot cover ---- 7-5
56P2815 Waste container door ---- 7-5
56P2816 Handle, front access door ---- 7-3
56P2817 Operator panel bezel with overlays, 421/422 only ---- 7-3
56P2818 Front cover assembly ---- 7-3
56P2819 Left upper cover assembly ---- 7-5
56P2820 Redrive cap cover assembly ---- 7-3, 7-47
56P2821 Top cover assembly ---- 7-3
56P2822 Front right handle cover assembly ---- 7-3
56P2823 Front left handle cover assembly ---- 7-3
56P2824 Rear cover ---- 7-5
56P2825 MP feeder door cover ---- 7-19
56P2826 Frame bias latch ---- 7-19
56P2827 Frame bias latch cover ---- 7-19
56P2828 Sensor mount bracket ---- 7-19
56P2829 MPF cable cover ---- 7-19
56P2830 MPF door assembly ---- 7-19
56P2831 MPF support bracket cover ---- 7-19
56P2832 MPF autocompensator pick assembly ---- 7-19
56P2833 MPF support bracket ---- 7-19
56P2834 500-Sheet tray assembly ---- 7-20, 7-51
56P2835 Lower access jam door assembly ---- 7-5
56P2836 Redrive door assembly ---- 7-14
56P2837 Lower right door assembly ---- 7-3, 7-14

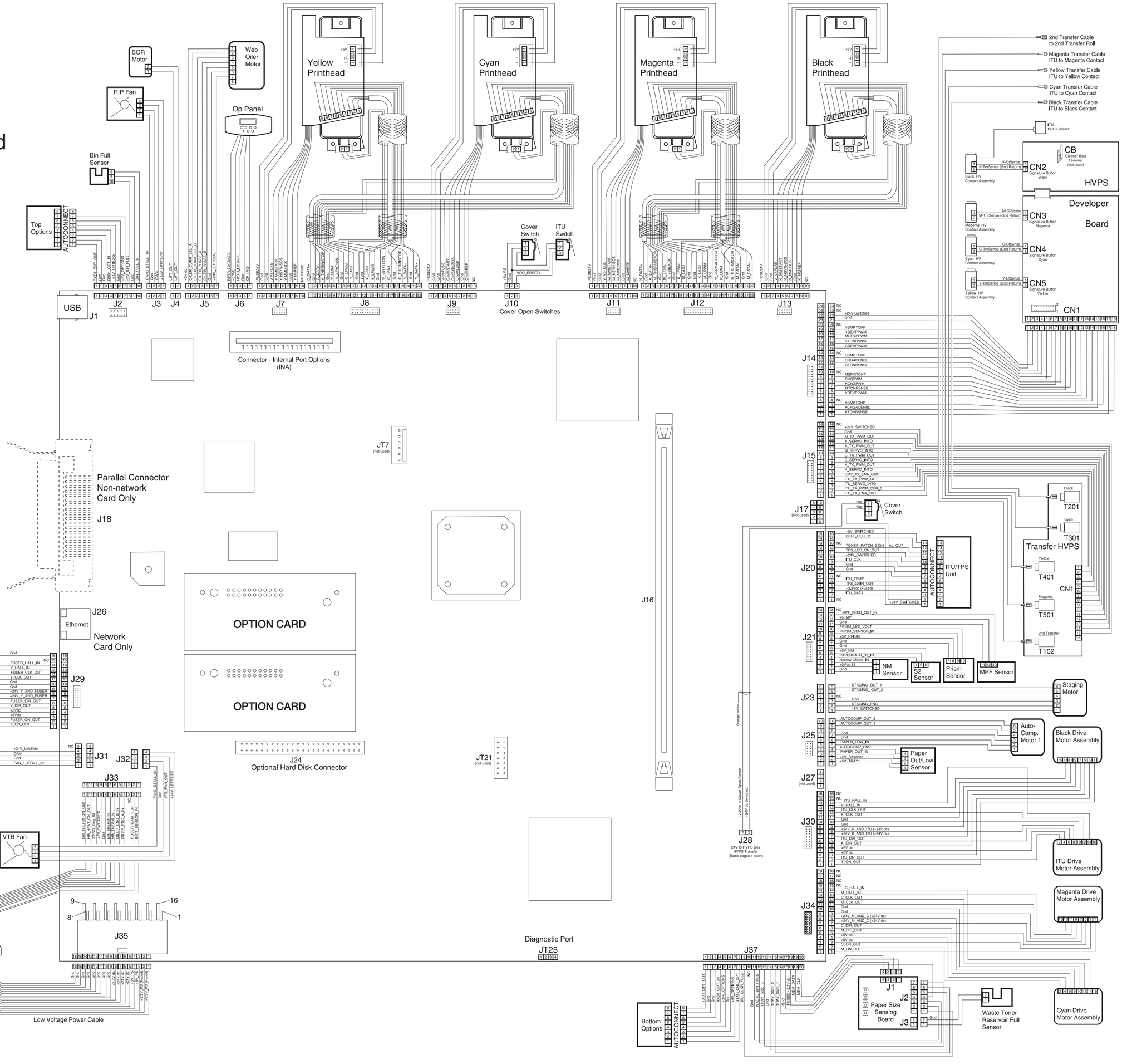
56P2840 System board, non-network, 401/421 only ---- 7-33
56P2841 System board, network, 402/422 only ---- 7-33
56P2842 Operator panel bezel with overlays, 401/402 only ---- 7-3
56P2844 Operator panel assembly ---- 7-3
56P2845 US media size sensing card assembly, 421/422 only ---- 7-16
56P2846 US media size sensing card assembly, 401/402 only ---- 7-16
56P2847 ITU assembly ---- 7-22
56P2848 ITU maintenance kit ---- 6-4
56P2849 500 option deflector ---- 7-53
56P2850 500-Sheet tray option, complete ---- 7-51
56P2851 Fuser assembly, 115 V 500W ---- 7-7
56P2852 Fuser assembly, 220 V 500W ---- 7-7
56P2853 Fuser assembly, 100V 500W (Japan) ---- 7-7
56P2854 Fuser assembly, web oiler 100 V 500W (Japan) ---- 7-9
56P2855 Fuser assembly, web oiler 115V 500W ---- 7-9
56P2856 Fuser assembly, web oiler 220 V 500W ---- 7-9
56P2857 Kit, staging drive assembly ---- 7-17
56P2858 500 base assembly ---- 7-53
56P2859 Cover, frame ---- 7-53
56P2860 Duplex option, complete ---- 7-55
56P2861 Duplex front jam tray assembly ---- 7-55
56P2862 Right jam clearance tray assembly ---- 7-57
56P2863 Back cover ---- 7-55
56P2864 Upper rib assembly ---- 7-57
56P2865 Duplex paper guide ---- 7-55
56P2866 Sensor mount plate ---- 7-55
56P2867 Paper guide ---- 7-53
56P2868 500-Sheet option tray pick assembly ---- 7-53
56P2869 Base door assembly ---- 7-53
56P2870 Output expander, complete ---- 7-43
56P2871 Cover, front control board ---- 7-43
56P2872 Cover, front ---- 7-45

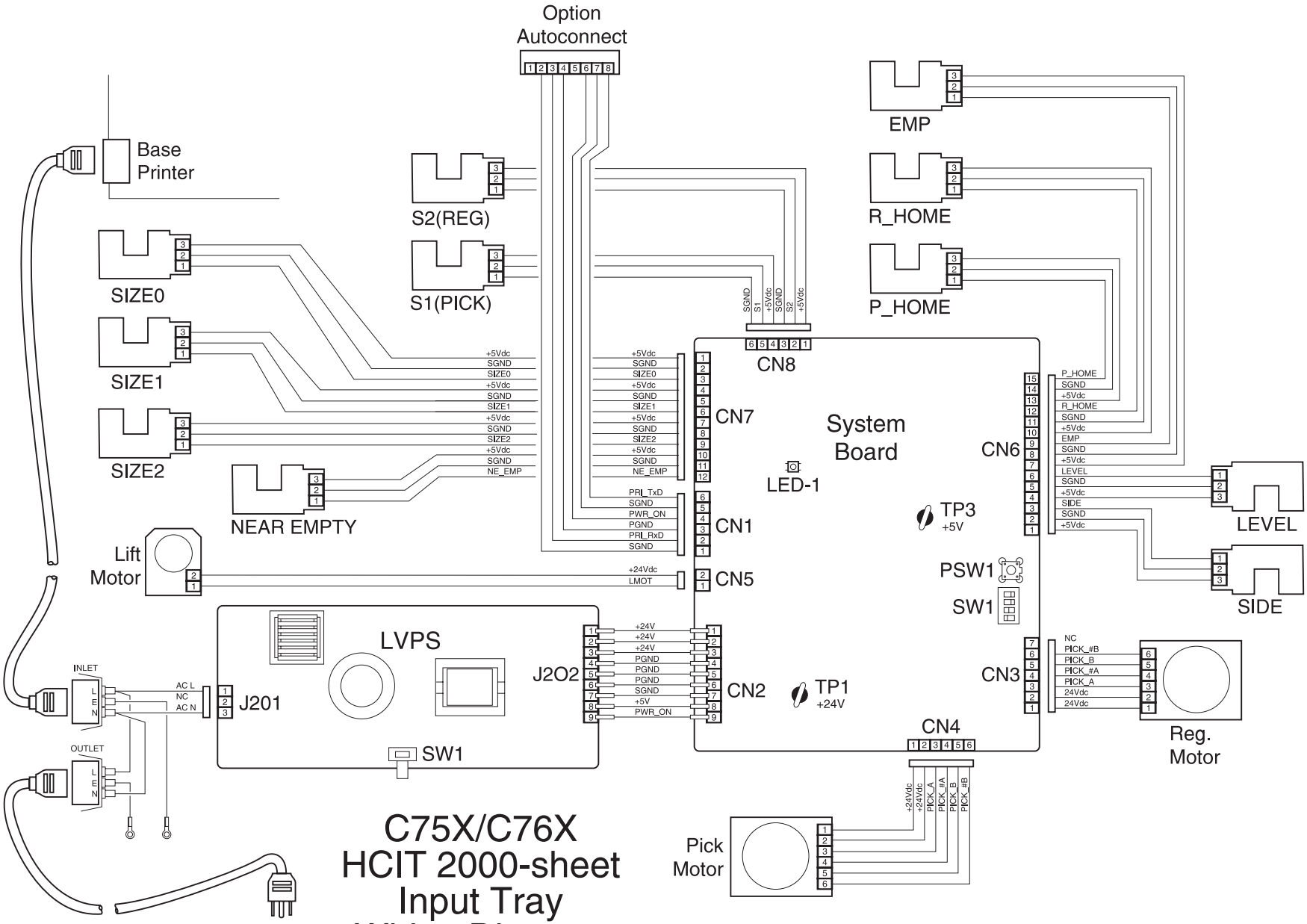
56P2873 Rear cover ---- 7-43
56P2874 Cover, rear support ---- 7-43
56P2875 Deflector, upper redrive ---- 7-43
56P2876 Level sensor bracket ---- 7-43
56P2877 Flag, output paper level ---- 7-43
56P2878 Latch, output tray ---- 7-43, 7-45
56P2879 Tray, output expander ---- 7-43
56P2880 5-Bin mailbox, complete ---- 7-47
56P2881 Latch, access door front ---- 7-47
56P2882 Cover, top bin ---- 7-47
56P2883 Flag, bin full ---- 7-47
56P2884 Bracket asm, bail attach ---- 7-47
56P2885 Tray, paper cap ---- 7-47
56P2886 Cover, right side ---- 7-47
56P2887 Rear structural cover ---- 7-47
56P2888 Cover, left side ---- 7-47
56P2889 Door, front ---- 7-47
56P2890 Envelope option (complete) ---- 7-71
56P2891 Envelope tray assembly ---- 7-71
56P2892 Outdoor media drawer assembly ---- 7-72
56P2893 Outdoor media tray assembly ---- 7-72
56P2894 Banner input assembly ---- 7-73
56P2895 Non-US media size sensing card assembly, 421/422 only ---- 7-16
56P2896 Non-US media size sensing card assembly, 401/402 only ---- 7-16
56P2897 Developer HVPS board ---- 7-34
56P2898 Redrive bearing ---- 7-55
56P2899 Frame assembly ---- 7-45
56P2901 Front cover ---- 7-61
56P2902 Cover, main CA ---- 7-61
56P2903 Right side cover ---- 7-61
56P2904 Left side cover ---- 7-61
56P2905 Rear cover ---- 7-61
56P2906 Upper left side jam cover ---- 7-61
56P2910 Maintenance kit 115V fuser ---- 6-4
56P2911 Maintenance kit 220V fuser ---- 6-4
56P2912 Maintenance kit 100V fuser ---- 6-4
56P2916 Door assembly, right jam access ---- 7-45
56P2917 Output expander assembly, mechanical linkage ---- 7-43
56P2918 Right cover ---- 7-43
56P2919 ESD brush cover ---- 7-43
56P2930 Cover, right ---- 7-47
56P2931 Latch, access door rear ---- 7-47
56P2932 Support, paper tray ---- 7-47
56P2933 Deflector, paper top bin ---- 7-49
56P2934 Deflector, paper ---- 7-49
56P2935 Flag, bin full ---- 7-47
56P2936 Frame asm, right side ---- 7-49
56P2937 Cover, wire ---- 7-47
56P2938 Deflector, paper exit w/brush ---- 7-49
56P2939 Stop asm, paper tray ---- 7-47
56P2940 Bail, order P/N 56P2940, 5-bin mailbox asm kit ---- 7-47
56P2940 Kit, 5-bin mailbox asm ---- 7-47
56P2941 Frame asm, left w/clutch asm ---- 7-47
56P2942 Toroids, parts packet ---- 7-37
56P2943 Kit, multi-bin stacker ---- 7-45
56P3090 Card assembly IPDS/SCS ---- 7-75
56P3142 PrintCryption™ card assembly ---- 7-75

56P3143 Bar code card assembly - - -

99A1741 Spring, diverter ---------- 7-49
99A1742 Sensor, 5-bin mailbox pass thru ---------- 7-47
99A1786 Gear, drive ---------- 7-47
99A1787 Deflector ---------- 7-49
99A1788 Retainer, R-ring ---------- 7-49
99A1789 Retainer, C-clip ---------- 7-49, 7-57

C76X
System board




Option
Autoconnect
Base
Printer
S2(REG)
S1(PICK)
EMP
R_HOME
P_HOME
SIZE0
SIZE1
SIZE2
NEAR EMPTY
Lift
Motor
CN8
CN7
CN1
CN5
CN6
System
Board
LED-1
TP3
+5V
PSW1
SW1
LEVEL
SIDE
LVPS
J201
J2O2
CN2
TP1
+24V
CN3
CN4
SW1
Reg.
Motor
Pick
Motor
INLET
OUTLET
AC L
NC
AC N
C75X/C76X
HCIT 2000-sheet
Input Tray
Wiring Diagram

C75X/C76X

HCOF System board

CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN12
CN13
CN14
CN15
CN16
CN17
CN18
CN19
CN20 (Not Used)
CN21
CN22
SW1
SW2
SW4
J39
J42
LVPS
Top of Printer
Main Fan
Enter Motor
Exit Motor
Tray Elevation Motor
Tray Sensors Exit Timing
Paper Surface Lower Sensor
Paper Surface Upper Sensor
Drop Solenoid
Thru Frame Connector
Cable 11
Cable 12
Cable 13
Paper Surface
Upper Sensor
Paper Surface Lower
Sensor
Exit Timing Sensor
Stapler Assembly
Cable 8
Thru Black Box Connector
Cable 3
Accumulator Drive Motor
Inline Connector
Jog Motor
Jogger Fence Homing Sensor
Tray Upper Limit Switch 2
Tray Upper Limit Switch 1
Accumulator Homing Sensor
Cable 14
Cable 9
Output Tray Offset Sensor
Cable 15
Output Tray Offset Motor
Cable 17
Cable 10
Chad Box Full Sensor
Tray Near Full Sensor
Toroid
Cable 16
Tray Limit SW
Tray Near Full Sensor
Tray Offset Posit Sensor
Punch Motor Homing Sensor
Cable 17
Cable 18
Punch Motor
Inverter Solenoid
Inverter Jam Sensor
Cable 19
Cable 21
Cable 20
Cable 4
Hole in Frame
Front Door Switch
Inverter Timing Sensor
Thru Frame Connector
Inline Connector
Cable 5
Punch Timing Sensor
Drop Timing Sensor
Printer Docking Switch
Cable 6
Covered Cable
Cable 1
To Outlet
To Printer
Cable 23
Cable 22
Actuation Solenoid
Cable 2
Gnd
LVPS Relay Board
Hole in Frame
Cable 7
Inline Connector

C75x, C76x Defect Locator

NOTE: Do not use the side rulers to assess repeating defects if the left and right calibration lines do not measure 110 mm respectively.

When printing this document, make sure 'Fit to page' is **not** selected.

Rollers

Component Description	Component	Planes Effected	Defect Period	
			mm	inches
Charge Roll	Cartridge	One	38.7	1.5
PC Drum		One	96.8	3.8
PC Cleaner		One	96.8	3.8
Developer Roll		One	47.9	1.9
TAR		One	46.4	1.8
Toner Meter		One	1092.2	43.0
Cart Auger		One	349.9	13.8
1st Transfer Roll	ITU	One	53.2	2.09
2nd Transfer Roll	2nd XferRoll	All	59.4	2.34
ITU Drive / Back-up Rolls	ITU	All	101.0	3.98
ITU Reverse Roll	ITU	All	50.5	1.99
Fuser Hot Roll	Fuser	All	147.0	5.79
Fuser BUR		All	147.0	5.79
Metering Rolls	Reference Edge	All	47.0	1.85
Color Charge Roll (CR)Short	C, M, or Y Cart	C, M, & Y	101.0	3.98

Charge Roll

TAR

Dev Roll

1st Xfer Roll

2nd Xfer Roll

PC

ITU Drive / Back-up/CR Short

110mm Calibration Mark

Fuser HR / BUR

Fuser Nip to 1st Redirve

Meter 4 to 2nd Xfer

Meter 3 to 2nd Xfer

Cartridge Spacing

110mm Calibration Mark

Meter 2 to 2nd Xfer

K to 2nd Xfer

Meter 1 to 2nd Xfer

M to 2nd Xfer

NIP Shock

NIP Distances	Defect Period	
	mm	inches
Y-C-M-K Cartridge Spacing	101.0	3.98
K to 2nd Transfer Roll	144.6	5.69
M to 2nd Transfer Roll	245.6	9.67
C to 2nd Transfer Roll	346.6	13.65
Y to 2nd Transfer Roll	447.6	17.62
Meter 1 to 2nd Transfer	164.8	6.49
Meter 2 to 2nd Transfer	126.4	4.98
Meter 3 to 2nd Transfer	86.4	3.40
Meter 4 to 2nd Transfer	51.4	2.02
2nd Transfer to Fuser	319.4	12.57
Fuser Nip to First Redrive	50.0	1.97
Fuser Nip to Exit Sensor	58.2	2.29
Fuser Nip to Exit Tray Nip	420.3	16.55